NAYAR (V.R.P.)
Ph.D. 1970

[See 'Copyright Declaration' overleaf.]

PHONOLOGY OF VERBAL FORMS
IN
COLLOQUIAL MALAYALAM

Thesis submitted to the University of London
for the Degree of
Doctor of Philosophy

by
Viyyath Ramakrishna Pillai Prabodhachandran Nayar
B.Sc., M.A., Ph.D. (Kerala)

School of Oriental and African Studies
1970

ABSTRACT

This thesis presents the phonological features of verbal forms in colloquial Malayalam, for the first time from the stand point of prosodic analysis.

The Introduction gives the necessary geolinguistic data and outlines the general principles of prosodic phonology.

A general phonetic basis for the phonological statements in chapters 3 - 7 is set up in chapter 1, by discussing in general terms the phonetic values applicable to the transcriptional units representing the vowel and consonant articulations in the language.

In order to achieve the maximum possible congruence between the phonological and grammatical levels of analysis and description, the results of the phonological analysis undertaken are presented within a grammatical framework provided in chapter 2.

Prior to the discussion of various prosodic features of word, different types of syllable to be distinguished from phonetic and phonological points of view are set up in the third chapter. This chapter presents the analysis of the phonetic data in terms of prosodic systems first and this is followed by a discussion of phonematic systems.

The generalized structures of stem, suffix and junction are the subject matter of chapters 4, 5 and 6 respectively.

The usefulness of handling native systems of phonological and grammatical units separately from systems of borrowed elements - qualified

as marginal in this thesis - is pointed out at every stage of the investigation.

The seventh chapter is devoted to a full discussion of the phonological exponents of those grammatical categories that are set up in chapter 2. The problem is approached polysystemically, the contrasts being studied in terms of several small systems defined both grammatically and phonologically. Attention is focused on inter-relations of stems and suffixes which are qualitative or quantitative or both. This has led to the statement of different types of junction structure.

The last chapter summarizes some interesting findings arrived at with the aid of techniques of Direct Palatography, Kymography, Mingography and Spectrography. Many perceptionally based statements included in earlier chapters have been found to be supported by instrumental evidence.

Of the two appendices the first tabulates phonological formulae for the formal scatter of the verb /uut-/ 'to blow'; the second comprises a short text of colloquial Malayalam given in reading transcription together with "free translation" into English.

.....

ACKNOWLEDGEMENTS

I wish to express my deep sense of gratitude to my supervisor Mrs. Eileen M. Whitley at the School of Oriental and African Studies without whose advice on various theoretical points, help and encouragement at all times, this thesis could never have achieved completion. Any word of thanks will be inadequate to express my gratefulness to her.

My sincere thanks are also due to Mr. A. W. Stone of the Phonetics Laboratory at the School for skilled and unsustained technical assistance which made the final chapter of this thesis presentable, Mrs. F. J. Burbridge who typed the whole of a by no means easy manuscript and did it admirably, the Commonwealth Scholarship Commission in the U.K. who sponsored this research and the University of Kerala for deputing me to London on study leave.

The inspiration and encouragement I have received from my father and three great teachers in India, Professor Elamkulam P. N. Kunjan Pillai, Professor (Dr.) P. K. Narayana Pillai and Professor (Dr.) V. I. Subramoniam in the study of Sanskrit Malayalam and Linguistics are inestimable. They would, I hope, look upon my present work as another tribute from their pupil.

Finally, I must place on record that this thesis owes a great debt to my wife whose ever enthusiastic assistance and co-operation have always been at my disposal.

V.R.P.

SYSTEM OF REFERENCE

Books and articles relevant to the topics under discussion in the present thesis are pointed out by referring to the Bibliography given on pp.315 - '20. In each case the author's surname is given followed by the year of publication of the particular edition of the work referred to. When relevant this is followed by the page number(s).

Cross references are mostly to the appropriate sections or sub-sections which are numbered on the left hand margin. The first digit on the left in each case refers to the chapter. Thus for example

3.16	=	the 16th section in chapter 3, including all sub-sections
3.16.0	=	the introductory remarks included in the 16th section in chapter 3
3.16.1	=	the first sub-section of the 16th section in chapter 3
3.16.1-3	=	sub-sections 1, 2 and 3 of the 16th section in chapter 3.

.....

SYMBOLS AND NOTATIONAL CONVENTIONS

Most of the general symbols and notational conventions employed in this thesis are indicated below. Particularly specialised use of certain symbols is, however, explained in the appropriate context.

/ /	Enclose symbols of reading (<u>not</u> phonemic) transcription. See 1.2.
[ ]	Enclose phonetic symbols, in terms of the I.P.A. See 0.2.
' '	Enclose glosses. See footnote 1, P.18.
:	Usually "literal" translation precedes this symbol; general meaning or "free translation" follows. eg. /va<u>nn</u>iru<u>nn</u>u/ 'having come sat: used to come'
( )	Enclose optionally chosen items (see p.94); in glosses these enclose the part supplied by the writer for clarity eg. /eytu/ 'shot (an arrow)'
{ }	Enclose items of which one can be selected (see p.94).
^ +	With; addition (see pp.94, 168)

≷	Derived from (pp.190, 196). Note that the use of these symbols in this thesis is mostly confined to synchronic statements and no diachronic implications are intended in their use in such statements.
*	Reconstructed and/or unattested form. (p.207)
∽	Free variation (p.199)
/	Or eg. veek/v (p.199)
=//=	Word boundary (p.207)
X	Possibility of functional contrast. See 8.4.2
x	In tables, occurrence of the item in question.

.....

ABBREVIATIONS

Aux.	Auxiliary
BSOAS	Bulletin of the School of Oriental and African Studies
Ca.	Causative
cf.	Refer or compare
Con.	Conditional
cps.	Cycles per second
cs.	Centisecond(s)
ex.	Exclusive
F.	Finite
f.	Future
fe.	Feminine
g.	Gender
H	Heavy
Hz.	Cycles per second
Imp.	Imperative
in.	Inclusive
Int.	Intensity line
intr.	Intransitive
I.P.A.	International Phonetic Alphabet
J	Junction

J.E.	Junctional element
J.P.	Junctional prosody
KM(s)	Kymogram(s)
L	Light - in regard to syllable quantity; larynx tracing in kymography.
m.	Masculine
M	Mouth tracing
N	Nose tracing
Nn.	Noun
Neg.	Negative
ng.	Non-gender
Opt.	Optative
Osc.	Oscillogram
p.	Past
p(p).	Page(s)
pl.	Plural
PM(s)	Palatogram(s)
pr.	Present
PvI.	Purposive infinitive
q.	Quantity
q.p.	Quantity pattern
R.P.	Relative participle
S.	Suffix
sec.	Second(s)

sg.	Singular
SM(s)	Spectrogram(s)
St	Stem
Syl	Syllable
tr.	Transitive
Vb.	Verb
V.N.	Verbal noun
V.P.	Verbal participle
vs.	Versus

.....

CONTENTS

CHAPTER 3. PROSODIC AND PHONEMATIC ELEMENTS OF STRUCTURE

CHAPTER 4. STEM STRUCTURES

CHAPTER 5. SUFFIX STRUCTURES

CHAPTER 6. JUNCTION STRUCTURES

A Grid for measuring the spectrograms is enclosed in the back cover.

.....

LIST OF PALATOGRAMS

LIST OF KYMOGRAMS

LIST OF MINGOGRAMS

LIST OF SPECTROGRAMS

.....

I N T R O D U C T I O N

SOME GEOLINGUISTIC DATA

0.1 Of the fifteen major languages recognized in the constitution of India, Malayalam takes the eighth place, as regards the population to which it is mother tongue. The majority of Malayalam speakers live in the Kerala State which stretches in a southerly direction from South Kanara along the west coast of India up to about 35 miles north of Cape Comorin. Geographically the Kerala State lies between 8° 18' and 12° 48' north latitude and 74° 52' and 77° 24' east longitude (See Map 2.). The census of India 1961 records the population of Kerala in 1961 as 16,903,715 and projects the figure for 1971 as somewhere between 20.7 and 21 millions. Malayalam is the mother tongue of 96% of the population of Kerala (Devassy 1965, pp.746 - '9; 71;387). Large or small groups of Malayalam speakers from Kerala are found throughout the length and breadth of India and a few are scattered all over the world concentrating particularly in major cities.

THE NAME OF THE LANGUAGE

0.2 It does not seem to be long since the language of Kerala got the name Malayalam (phonetically /məlajɑ:ɭəm/). Originally "Malayalam" denoted the land itself and it is generally believed to be the result of a combination of /mala/ meaning 'mountain' either with /aɭam/ meaning 'land' or /aaɾam/ which means 'depth'. Attention may be drawn, at this point, to one of the striking topographical features of Kerala, namely the abundance of hills and mountains. It is not improbable, therefore, that "Malayalam" was originally a synonym of both /malaṉaaɖə/ and /malabaar/. /malaṉaaɖə/ meaning literally 'the hill country' was a

term popular in old Malayalam as well as medieval Tamil. Still this term is used to refer to about one third of the country adjoining the Western Ghats which is geographically the eastern boundary of the Kerala State. /Malabaar/ the name given to the country mostly by the Arab navigators, may be interpreted as a compound of Dravidian /mala/ and Persian /baar/ meaning 'sea-shore' (Moïn 1963, p.447) or Malayalam /vaaram/ meaning 'stretch'. It is, therefore, clear that if "Malayalam" is synonymous with /malanaaɖə/ and /malabaar/, it refers to the hilly or mountainous character of the country.

An alternative explanation of the term "Malayalam" derives the latter part of the compound from /aaɣam/ meaning 'depth', which may refer to the sea. According to this interpretation "Malayalam" just invites one's attention to the fact that the country referred to is a narrow strip of land hemmed in between the Western Ghats on the east and the Arabian Sea on the west. There are various other meanings given of the term depending on the interpretation of the compound, the details of which the present study does not propose to examine.

/Malayaaɳma, malayaayma/ and /malayaaɣma/ all probably meaning 'the special features of the hilly country' were less popular synonyms of 'Malayalam'. It may also be noted that at least one of the foreign grammarians of the language has referred to it as Malayalim (Peet, 1841).

MALAYALAM - A DRAVIDIAN LANGUAGE.

0.3 Malayalam belongs to the Dravidian family of languages and is one of the four major languages of this family with a rich literary tradition, the other three being Tamil, Kannada and Telugu. Each of these has a recorded history of many centuries.

MALAYALAM AND SANSKRIT.

0.4 The origin of Malayalam as a distinct language may be traced to the 9th century A.D. Briefly it may be stated that Malayalam had its origin in the old Dravidian tongue spoken along the Malabar coast; but throughout its gradual evolution into its present form, it has naturally been influenced by the circumstances that prevailed in that region during the various phases of its history. The greatest and most conspicuous of such influences is that of Sanskrit and Prakrit brought into Kerala by the Brahmins who became an important element in the population of the country. Mention may be made, in this connection, of a unique mixture of the native language of Kerala and Sanskrit known as Manipravalam [məɳipravaːləm], which served as the medium of literary expression after the 11th Century. In contemporary colloquial Malayalam, a good part of the vocabulary is Sanskritic in origin, this including even some of the most commonly occurring words which refer to bodily parts and family relations such as /mukham/ 'face', /nakham/ 'nail', /bhaarya/ 'wife', /bharttaavə/ 'husband'.

DIALECTS AND LINGUISTIC STUDIES.

0.5 Dialects of various kinds such as geographical, communal and social exist in Malayalam also as in the case of all languages that spread over a wide area and among people of different classes. These dialectal differences continue to exist in spite of the standardizing tendency initiated by the spread of education using mass-produced text books, the press and the radio. Non-specialist native speakers and foreigners who have travelled widely in Kerala do take note of some characteristic features of certain geographical and cast dialects of Malayalam, however

impressionistic their opinions may be. Scientifically based dialectological studies of the language have started recently and a team of young linguists at the Department of Linguistics, University of Kerala, have already completed exhaustive analyses of the dialects of Malayalam spoken by the Ezhavas and the Pulayas all over Kerala.

The illustrious grammatical tradition of which Kerala is reasonably proud dates back at least to the 14th Century A.D. (For details of grammatical studies in Malayalam from this period, see Nayar (1963)). As regards studies based on principles of modern linguistics the work undertaken by the University of Kerala deserve special mention. Descriptive grammars of a number of Malayalam texts and dialects have been prepared with exhaustive indices by the members of the University Departments of Linguistics and Malayalam in Trivandrum. Many more dialects and texts as well as problems related to various topics like history of Malayalam, bilingualism, language teaching and child's language are also being studied by the linguists in Trivandrum. A comprehensive lexicon of the language is being compiled at the University Department of Lexicon. Research into different aspects of the Malayalam language is undertaken at various centres of advanced study in Annamalai, Madras, Poona and Delhi also.

THE DATA ANALYSED.

0.6 The data analysed in this thesis comprise meaningful utterances permissible in my idiolect. I am a native speaker of Malayalam and the dialect I speak may be labelled as the 'Nayar Dialect of North Travancore'.

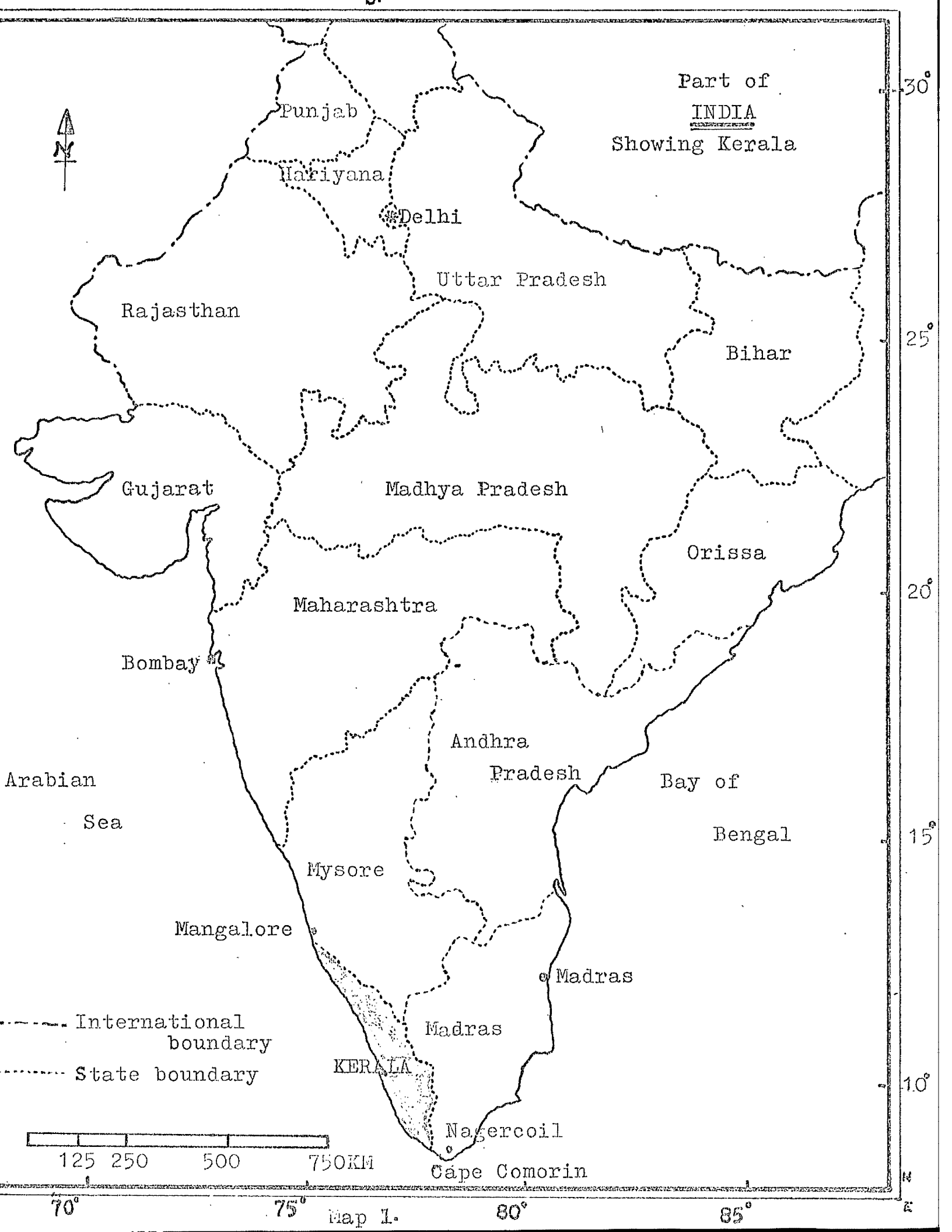
My place of birth is Parur, a small town only ten miles west of Alwaye in North Travancore,[1.] (See Map 2.). Till my graduation from the Union Christian College, Alwaye, I have continuously stayed in my native town. During my post-graduate study, I stayed in Trivandrum for about two years but, by that time, I feel my speech habits have/had fixed themselves and my coming into contact with speakers of various dialects of the language while I was studying and teaching Malayalam and Linguistics during the successive years has not influenced my idiolect to any considerable extent. I have taught Malayalam at the South Travancore Hindu College, Nagercoil, for about four years and since September 1967 I have been in London undergoing advanced training in Linguistics. Apart from this, my stay outside Kerala has never exceeded a few weeks at a time. In view of all these facts, it is assumed that my idiolect analysed in this thesis is a sufficiently representative sample of contemporary colloquial Malayalam.

THEORETICAL OUTLINE.

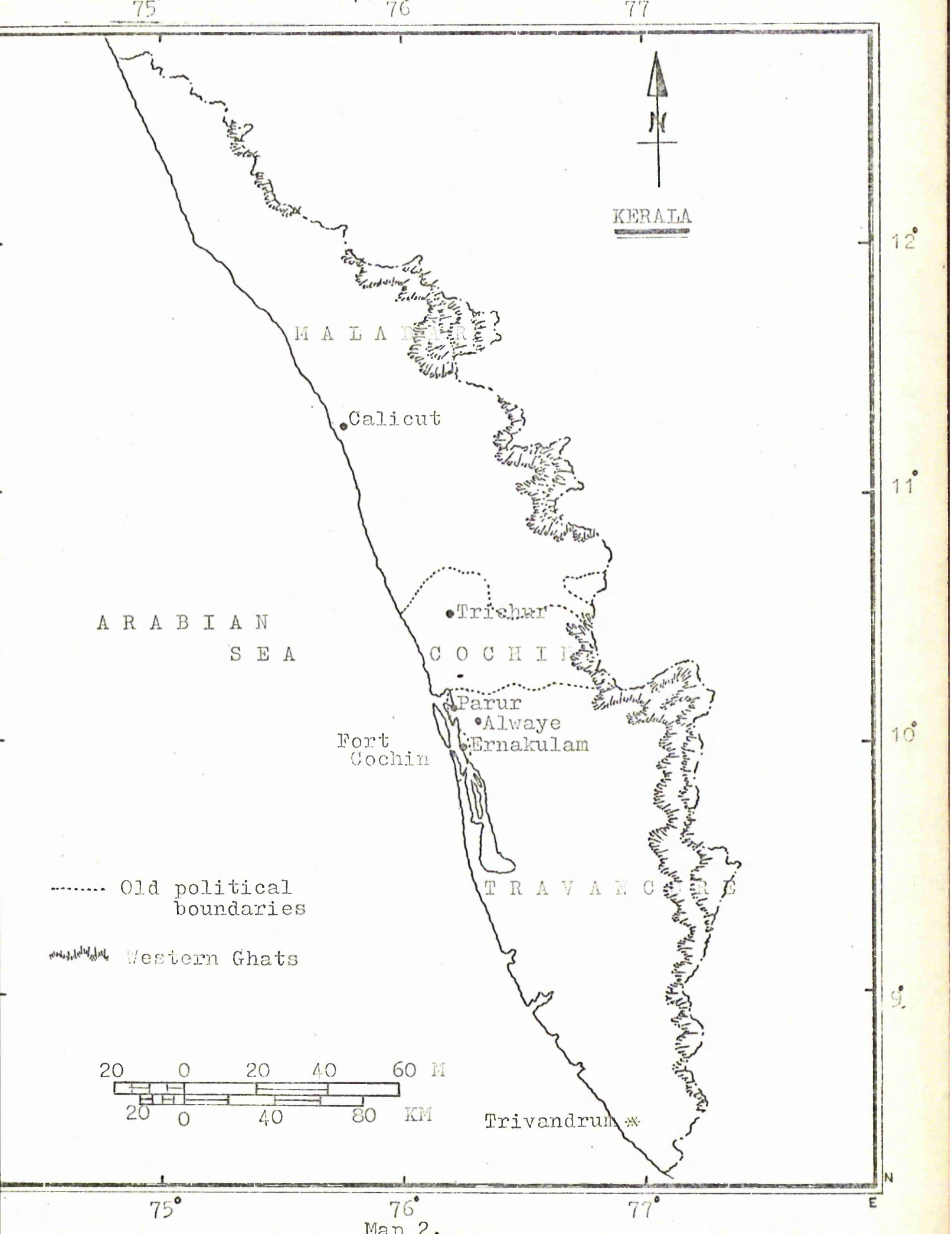
0.7.0 This thesis proposes to state the phonological features of verbal forms in colloquial Malayalam, in accordance with the requirements of the principles of prosodic analysis, propounded by J. R. Firth and

---

1. The present Kerala State is, in fact, the result of welding together mainly the following three political territories: the Malabar in the north, which was part of the State of Madras, and the two old princely States, namely Travancore and Cochin, the former in the south and the latter in between Travancore and Malabar. Although prior to the completion of a seriously undertaken dialectal survey it may not be proper to demarcate specific dialectal areas, a tentative division of the land further into South Travancore, North Travancore, Cochin, South Malabar and North Malabar may prove useful in making reference to the geographical distribution of many dialectal features.


Part of
INDIA
Showing Kerala
N
Punjab
Hariyana
Delhi
Uttar Pradesh
Rajasthan
Bihar
Gujarat
Madhya Pradesh
Orissa
Maharashtra
Bombay
Andhra
Pradesh
Arabian
Sea
Bay of
Bengal
Mysore
Mangalore
Madras
Madras
KERALA
Nagercoil
Cape Comorin
International
boundary
State boundary
125 250 500 750KM
30°
25°
20°
15°
10°
70°
75°
80°
85°
N
E

Map 1.


75
76
77
N
KERALA
12°
11°
10°
9°
M A L A B A R
Calicut
Trichur
A R A B I A N
S E A
C O C H I N
Parur
Alwaye
Ernakulam
Fort
Cochin
T R A V A N C O R E
..... Old political boundaries
Western Ghats
20 0 20 40 60 M
20 0 40 80 KM
Trivandrum
N
E
75°
76°
77°

Map 2.

practised by his colleagues at the School of Oriental and African Studies, of the University of London. Publications on prosodic analysis are to be found in the different numbers of the Bulletin of the School of Oriental and African Studies and some other journals, not commonly circulated in India. This fact would, perhaps, account for their comparative lack of influence on modern Indian Linguistics despite Firth's having found inspiration in early Indian grammatical works (See Firth in Palmer 1968 p.168). The present section is, therefore, devoted to a brief outline of this approach to phonological analysis.

CULTURE AND LANGUAGE.

0.7.1 Like Malinowski, Firth saw language as an integral part of the life and culture of the speech community and as revealing the speaker's personality as well as his role in the society. Language, therefore, is all meaningful activity and linguistic analysis is esentially the analytical study of different types of linguistic meaning.

MEANING IN DIFFERENT LEVELS.

0.7.2 Language is an extremely complex phenomenon for analysis. It is, therefore, split up into different levels of which those that are usually referred to are phonetic, phonological, grammatical, semantic and situational. Each of these linguistic levels is then studied as closely as possible. Throughout such a study, it is always borne in mind that the analytical techniques and descriptive terminology best suited to one level will be different from those most suitable in another. Meaning in all levels is held to be the function in a context, the frame of reference of which may be any one of the levels of linguistic

analysis the linguist chooses to examine. So linguistic analysis turns out to be essentially a serial contextualization of facts, involving the examination of facts in increasingly bigger and bigger contexts and each context being a function in a bigger context and all contexts finding a place in the context of culture (Firth 1935 p.72.). This, however, is not necessarily the only direction in which the analyst can work. Equally well he can start from the biggest of contexts and proceed towards the smallest through the intermediate ones. Or else he may start from an intermediate level and proceed in both directions. By means of an array of techniques, the meaning of linguistic events is dispersed in a spectrum of specialized statements. This approach to language-analysis is characteristically monistic and conspicuously contrasts with the older dualist theories which hold meaning as equivalent to reference or denotation and with most other modern linguistic theories of which the basis is the rigidly dualist division between form and meaning.

SYNTAGMATIC VERSUS PARADIGMATIC STRUCTURE AND SYSTEM

0.7.3 In his treatment of the intralinguistic levels of analysis,[2] Firth found it useful to accept and develop the basic distinction de Saussure drew between associative[3] and syntagmatic axes of language. "Syntagmatic relations" are those recognized between elements in the context which are grouped into structures parallel to but not the same

---

2. For instance, the phonological and grammatical levels in contrast with the situational level, which at least partly, would seem to be extralinguistic.
3. Later amended, appropriately, by Hjelmslev as paradigmatic.

as the temporal stream of writing. The term "structure" and all its derivatives (structural etc.) are applied in Firthian literature only to syntagmatic relations.

The elements belonging to the same group, say for example, two prosodies or a given number of Vunits or of Cunits[4] which can form part of a structure at a given place are said to "commute". At various points in a structure closed sets or systems of commutable terms are set up and the relations between such mutually associated elements are said to be "paradigmatic". "System" and all its derivatives (systemic etc.) are used to refer only to paradigmatic relations.

Being more directly abstracted from the actual material of utterance, structures are, perhaps, the primary dimension and systems seem to be set up at various structural places only subsequently. The substructures and subsystems which comprise structures and systems are often unsymmetrical and in such cases no attemptwhatsoever is needed on the part of the analyst to create an impression of seeming symmetry.

POLYSYSTEMIC APPROACH.

0.7.4 It is usually stressed at the London School that the whole approach to language should be polysystemic as opposed to the usual approach of the phonemicists which is monosystemic. The analysis strives to bring out the differences between different particular systems much more than the generality of general systems. Each system of commuting terms operating at a given structural place is characteristic of that place and it is pointless to consider whether one term in on system

4. These terms will be explained shortly. See 0.7.6.

is identical with its apparent counterpart in a different system set up for a different place in the structure. Take for instance [l] belonging to an eight term word initial consonant system and its apparent counterpart belonging to a three term word final consonant system. Although it may be convenient to transcribe these two with the same symbol, functionally they are different from each other in their respective phonological context and, therefore, their phonological meaning is also necessarily different.

Systemic differences have two dimensions: one, the structural place for which each system is set up and the other, the constituent terms in each system. Consequently, the systems set up for syllable initial, medial and final positions are all different from each other. Systemic differences related to constituent terms may be numerical or exponential (See 0.7.7 for an explanation of the term "exponent"). Because of this, a two-term system is different from a three-term one and a five-term vowel system is different from a five-term consonant system.

INTER-DEPENDENCE OF LINGUISTIC LEVELS.

0.7.5 Another aspect of polystemic phonology is that different grammatical elements may be subject to different phonological analyses. The verbal forms of a language can, therefore, be studied separately from the nominal forms. Even among the nominal forms, it would be profitable to treat place names, pronouns and numerals differently so that the salient features of forms belonging to each of such subclasses can be brought out clearly and concisely. In view of these facts a complete description of Malayalam or even a reasonably full account of this

language making an over-all statement of the nature of linguistic relations involved is far from what is being attempted in this thesis. By the very nature of things, any given or selected restricted language, i.e., the language under description, such as the verbal forms in Malayalam which are analysed here, has to be studied from a multi-structural and polysystemic point of view.

Generally is is recognized among prosodists that any point in a language can and should be considered the locus of many systemic and structural relations and no level of linguistic analysis is prior or subsequent to any other except in temporal consideration. Consequently, it cannot be held that the units of one level of analysis are more fundamental than those set up in any other level. It is equally meaningless to assert that those units 'are' or 'are not' there prior to or independent of the operations of the analyst. Any amount of information from one level relevant to setting up units on another (for example, grammatical information relevant in establishing phonological units) can, therefore, be drawn on by the analyst. It has, in fact, been noted that any phonological statement which proposes to handle the phonic data adequately has to consider beforehand the needs of grammatical analysis (Palmer, F.R. 1955 p.549). This is why the phonological analysis given in chapters 3 - 7 of this thesis is set within the framework of the grammatical analysis attempted in Chapter 2.

PROSODIES AND PHONEMATIC UNITS.

0.7.6 In prosodic analysis, abstractions belonging to two categories, namely prosodies and phonematic units, are made in order to handle the

the phonic data, that is to say, the raw material of actual utterances. A considerable part of the phonic data is referable to prosodies whose domain of relevance will be more than one phonic segment. Thus there are syllable-prosodies, word-part prosodies, word-prosodies, sentence-prosodies etc. Those features of the phonic material which are referable to minimal segments, having serial order in relation to each other in structure are handled under the title "phonematic units" and these comprise the "C and V units" of the phonological structure. To put it differently, prosodies are to be considered the property of the whole structure within which certain constantly recurrent syntagmatic relations obtain whereas the phonematic units are best treated as appropriate to their several places in structure and are devoid of any syntagmatic implication (Allen 1957 p.69). Phonologically a structure may, thus, be stated as a syntagmatic entity comprising phonematic units and one or more prosodies which belong to the structure as a whole. Values are provided for these phonematic units and prosodies by establishing systems of which they are stated as terms commuting with each other (Robins 1957 pp.3-4; Allen 1954 p.556 foot-note 2).

EXPONENCY AND RENEWAL OF CONNECTION.

0.7.7 During the course of analysis and description, certain phonetic data that are selected from percepts of experience and phonetically described are stated to characterize the various phonological units. Technically, the phonetic data in question are said to be "allotted" to the respective phonological units which are set up and of which they are called "exponents". Exponency, from this point of view, may be

treated as a relation between linguistic experience and the several units set up on various analytical levels by the linguist. Any given analysis may be tested with reference to linguistic data yet unanalysed, by checking how far the converse relation to exponency namely "renewal of connection" holds between the analysis and the yet unanalysed linguistic experience (See Firth in Palmer 1968 pp.17, 19, 24.).

1. VOWEL AND CONSONANT ARTICULATIONS

CHAPTER I.

VOWEL AND CONSONANT ARTICULATIONS.

1.0 The vowel and consonant articulations in Malayalam which are briefly discussed in this chapter are intended to serve at least two purposes:

(i) They give some indication in general terms of phonetic values which may be applied to the units of transcription employed in this thesis.

(ii) They serve as a general phonetic basis for the phonological statements in chapters 3 - 7.

I VOWELS

1.1 There are eleven vowels to be distinguished in the description of verbal forms in the language.

SHORT VOWELS.

1.2 Of the eleven vowel articulations the six short ones are symbolized as /i, e, a, o, u, ə/.

The obliques //, used above, enclose symbols of reading transcription. Strictly speaking /i/, therefore, stands for the articulation represented by the transcriptional unit i. Wherever there is no possibility of confusion between the linguistic material cited and adjacent portions of the text of the thesis, such obliques have been dispensed with, in view of typographical simplicity (cf. Tables, Example-lists, Appendix II). It must be made clear at the outset that the present study does not involve the concept of phoneme and, therefore, nowhere in this thesis a phonemic transcription, which is conventionally enclosed in such obliques, is employed. Accepting that complete representation of

every discriminable sound difference is an unattainable ideal, the transcription used in different sections of this thesis has been kept more or less narrow, bearing in mind the amount of detail required in each instance.

The vowel articulation represented by each of the six transcriptional units introduced above is indicated below:

/i/ represents a type of close front unrounded short vowel.

/e/ represents a type of mid front unrounded short vowel.

/a/ represents a type of open short vowel with neutral lip position.

/o/ represents a type of mid back rounded short vowel.

/u/ represents a type of close back rounded short vowel.

These five thus form a set of one central vowel and two each of front and back vowels.

The articulatory position of the sixth short vowel symbolized as /ə/ is midway between the central and back regions of the mouth in the horizontal plane and between the close and half close positions in the vertical plane. Distributionally, this vowel is restricted to certain positions of "word" (2.5) and in word final position, this seems to be shorter than all other short vowels in the language.

LONG VOWELS.

1.3 A long form of the vowel, different from the short, is to be recognized, with regard to all vowels mentioned above, other than / ə /. See Table 1.1 where the meeting points of rows and columns marked by 1-5 indicate availability of examples concerned and cross refer to the list of examples.

	ii	ee	aa	oo	uu	*əə
i	1					
e		2				
a			3			
o				4		
u					5	
ə						—

TABLE 1.1

List of examples for Table 1.

1. vi ɬɬ u 'released'[1]
   vii ɬɬ i 'made discharge'
2. ke ɬɬ u 'extinguished'
   kee ɬɬ u 'heard'
3. paRRi 'got stuck'
   paaRRi 'sprinkled'
4. ko ɬɬ i 'knocked'
   koo ɬɬ i 'distorted'
5. ku ɬ i 'drink'
   kuu ɬ i 'increased'

1. Glosses given throughout this thesis are meant to be only "translation meanings", as they are nothing more than "identification names" (See Firth in Palmer 1968 p.197).

Long vowels are symbolized by duplicating the symbol for the corresponding short one. Approximate tongue positions of the short and long vowels, articulated as far as possible in identical environments, are plotted against the cardinal vowel diagram (Diagram 1.1).

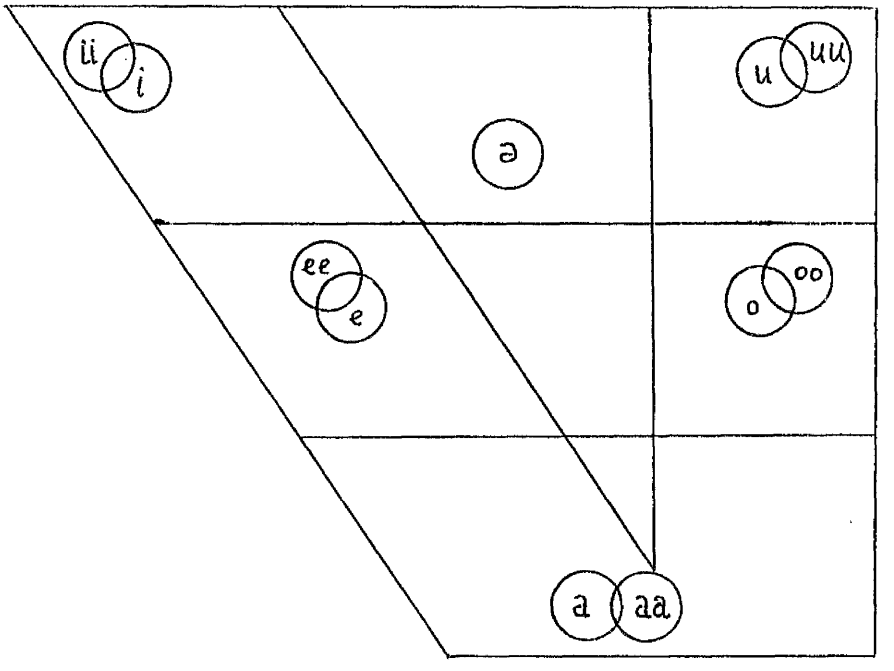


DIAGRAM 1.1

Generally /ii, ee, oo/ and /uu/ are a little bit closer than the corresponding short vowels. Moreover the muscular tension involved in the articulation of a long vowel seems to be greater than that in the corresponding short vowel.

VOICE.

1.4 All the vowels mentioned above are voiced (See experimental findings in 8.2.9).

NASALIZATION.

1.5 Between nasal consonants and after nasal consonants occurring in the same syllable (3.2-3), vowels in Malayalam are nasalized as in the

pronunciation of words like:

mĩnnũnnũ	'shine' (pr.)
mĩnũŋŋĩ	'glittered'
aŋãɲɲũ	'approached'
nãnãɲɲu	'became wet'

Vowels occurring before nasal consonants are nasalized only occasionally.

e.g.	oo ⌊ in	'you (pl.) run'
	vi ⌊ unnu	'release (pr.)'

Between non-nasal consonants and before or after non-nasal consonants when not preceded and followed by nasal consonants vowels are always pronounced with the soft palate raised.

e.g. The vocalic articulations in

/vaa ⌊ i/ 'faded', and

/oo ⌊ i/ 'ran', which are not nasalized.

(See experimental findings in 8.2.13).

LIP POSITION.

1.6 The following positions of the lips are to be distinguished in vowel articulations:

(i) Unrounded, for /i, ii, e, ee/;

i.e., all the front vowels.

(ii) Rounded, for /o, oo, u, uu/;

i.e., all the back vowels.

(iii) Neutral, for /a, aa, ə /;

i.e., all the vowels of the central area.

JAW OPENING.

1.7 Three degrees of jaw opening are distinguishable:

(i) Narrow, for /i, ii, u, uu, ə /.

(ii) Medium, for /e, ee, o, oo/.

(iii) Wide, for /a, aa/.

VOWEL DISTRIBUTION.

1.8 Examples of verbal forms, both native and marginal (4.2) in which each of the vowels discussed above occur in one or more of the following positions, absolute initial, medial and absolute final are given in Table 1.2. It may be noted that all short and long vowels other than /ə / occur initially and medially in native forms. /o, ii/ and /ee/ do not occur finally. Examples with /aa/ and /oo/ occurring in final position are restricted to a few imperative forms in the language, such as /vaa/ 'come' and /poo/ 'go'.

/a, aa, u/ and /uu/ are the vowels occurring frequently in marginal verbal forms. Medially, in marginal forms all short and long vowels other than /o, e/ and /ə / occur. Forms like /puujikkaate/, testifying to the word final occurrence of vowels in marginal forms have been given in the table. It might, however, be noted, in anticipation that the suffix structures are, to a great extent, common to both native and most marginal verbal forms and what are shown here as word final vowels are better treated as suffix final ones.

/ə / is restricted to final position in both native and marginal forms.

	INITIAL		MEDIAL		FINAL	
	NATIVE	MARGINAL	NATIVE	MARGINAL	NATIVE	MARGINAL
i	iRuttu	-	viRRu	nindiccu	uuti	-
ii	iiri	-	kiiRi	jiiviccu	-	-
e	eytu	-	peytu	-	uutaate	puujikkaate
ee	eeRRu	-	keeRi	veedaniccu	-	-
a	aRRu	anuvadiccu	katti	dahiccu	uutiya	puujicca
aa	aaRi	aaloociccu	kaattu	daahiccu	vaa	-
o	ottu	-	potti	-	-	-
oo	ooti	-	poonnu	boodhiccu	poo	-
u	urummi	udiccu	tiruki	stuticcu	eytu	puujiccu
uu	uuti	uuhiccu	tuuki	puujiccu	varuu	puujikkuu
ə	-	-	-	-	vannə	puujiccə

TABLE 1.2

II. DIPHTHONGS.

1.9 The two diphthongal articulations to be distinguished in colloquial Malayalam are symbolized as /ai/ and /au/. As the beginning of both these is more prominent than the end, these are "falling diphthongs" (Jones 1932 p.57; Westermann and Ward 1933 p.44). In the cardinal vowel diagram given (Diagram 1.2) the circles represent the approximate starting point of these diphthongs and the arrows show the direction in which the tongue moves, while the arrow heads show the limits of movement of the tongue.

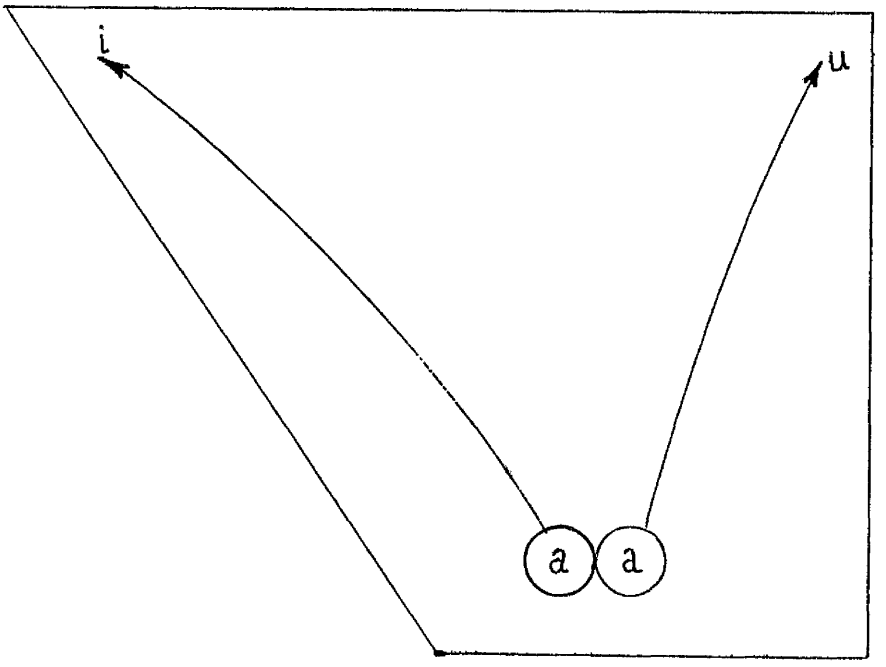


DIAGRAM 1.2

In handling some verbal forms like/eytu/ 'shot (an arrow)', /ceytu/ 'did' and /koytu/ 'reaped' one may come across two more articulations which may seem to be diphthongal: /ei/ and /oi/, but in my pronunciation there seems to be only a palatal frictionless continuant

[j] following the vowels /e/ and /o/ in these instances. Furthermore, there are forms like /eyyunnu, eyyum; ceyyunnu, ceyyum; koyyunnu/ and /koyyum/ derived from the stems of these verbal forms and involving, undoubtedly, a long palatal frictionless continuant following /e/ and /o/. In view of these facts, for the data under analysis, this study does not distinguish any diphthongs in addition to /ai/ and /au/.

It is also worthy of mention that as far as verbal forms in Malayalam are concerned, even /ai/ and /au/ which are treated as diphthongs in this thesis occur only in forms derived from /vaik-/ 'to be delayed' and /gauni-/ 'to take seriously'. Of these, /gauni-/ is a marginal stem. Moreover, some of the forms, at least, derived from (vaik-/ and commonly available in colloquial Malayalam have a long palatal frictionless continuant after /a/ : / vayyunnu, vayyum/.

LIP POSITION.

1.10 The following two positions of the lips are distinguishable in diphthongal articulations:

(i) Neutral to Unrounded in /ai/.

(ii) Neutral to Rounded in /au/.

JAW OPENING.

1.11 This is wide to narrow in both cases.

TONGUE POSITION.

1.12 Starting from the low central position, the tongue glides to the high front position for /ai/ and to the high back position for /au/. For /ai/ the starting point is slightly more fronted than that for /au/.

DISTRIBUTION OF DIPHTHONGS.

1.13 As has already been mentioned above /ai/ and /au/ need to be recognized only in forms derivable from /vaik-/ and /gauni-/. It may

also be noted that even in those forms they are restricted to the stem-initial syllable and constitute an extremely minor system.

III CONSONANTS.

1.14.0 The outline of classification of consonant articulations and the symbols employed to refer to them are indicated in Table 1.3.

1.14.1 It might be noted that the selection of the majority of these symbols has been based on the conventions of the International Phonetic Alphabet. Some deviation from the practice of I.P.A. has, however, been found necessary as is observable in the following eleven instances: /c, j, n̲, n, r, R, ʃ, h, v, ɣ, y/. This procedure has been resorted to because of one or more of the following considerations:

(i) Non-availability in I.P.A. of symbols that would unambiguously represent the articulation in question.

(ii) The conventions that have come into being in the field of Dravidian linguistics due to the usual practice of my predecessors and contemporaries.

(iii) Typographical simplicity.

CONSONANT DISTRIBUTION.

1.15 As in the case of vowel distribution, the following statements regarding the distribution of consonant articulations take into account only the verbal forms commonly occurring in present day colloquial Malayalam and the terms 'initial','medial' and 'final' refer to the respective positions in morphologically definable words belonging to the major grammatical category, verb.

	BILABIAL	LABIO-DENTAL	DENTAL	DENTI-ALVEOLAR	ALVEOLAR	RETROFLEX	PALATAL	VELAR	NO. OF SYMBOL
Plosive	p b		t d			ʈ ɖ	c ɟ	k g	10
Nasal	m		n̪		n	ɳ	ɲ	ŋ	6
Lateral					l	ɭ			2
Flapped				r	R				2
Fricative				s		ʂ	ʃ	h	4
Continuant		v				ɻ	y		3
Total number of transcriptional units									27

TABLE 1.3.

1.16 Initially, in native verbal forms /p, t, c, k/ and /m/ occur quite frequently whereas /n̲, ɲ / and /v/ are less frequent and /r,R/ and /s/ least. See Table 1.4 in which both native and marginal verbal forms showing possibilities of initial, medial and final occurrence of the consonant articulations under discussion are listed.

1.17 Medially, in native forms /t, ʈ , k, m, n, ɳ , l, ɭ , R, r, v, ɣ / and /y/ are of common occurrence while /s, ʂ / and / ʃ / are rare.

1.18 The possibilities of consonant articulation in word final position are limited to /m, n/ and /l/.[2]

1.19 The velar nasal articulation represented as /ŋ / occurs only in medial homorganic clusters. Discussion of this articulation is, therefore, postponed to the section dealing with such clusters (1.34.1). / ɣ / occurs only in native forms and even in them is restricted to medial position.

1.20 All types of consonant articulation other than retroflex and those represented by /n, ɳ , R/ and / ɣ / are possible, initially in marginal verbal forms. Medially in such forms all consonant articulations other than /n̲, ɲ , ŋ , R/ and / ɣ / are attested.

1.21 Aspiration of consonants, chiefly plosives and affricates is a feature characteristic of marginal forms in the language, but even in marginal verbal forms, articulations that can be represented as / ɖh/ and /jh/, i.e., voiced aspirated retroflex plosive and voiced aspirated palatal affricate, are not attested in any position. Initially / ʈh/ and /th/

---

2. This short list of word final consonants can be extended only very little even if all non-verbal forms attested during the whole of the history of Malayalam are taken into account. Apart from/m,n/ and /l/ only /ɳ, ɭ/ and /r/ are attested in word final position, after most vowels: /aaɳ / 'male', /aaɭ / 'person', /avar/ 'those'. Word final occurrence of /ɣ , y/ and /h/ is very rare and quite exceptional: /appoɣ / 'at that time', /paay/ 'mat' /n̲amah/ 'salutation'.

	INITIAL		MEDIAL		FINAL	
	NATIVE	MARGINAL	NATIVE	MARGINAL	NATIVE	MA
p	pokki	paaliccu	-	japiccu	-	
ph	-	phaliccu	-	-	-	
b	-	bandhiccu	-	kaba ɭ ippiccu	-	
bh	-	bhaaviccu	-	ʃoobhiccu	-	
t	talli	tarkkiccu	vitaccu	maticcu	-	
th	-	-	-	mathiccu	-	
d	-	dahiccu	-	madiccu	-	
dh	-	dhariccu	-	saadhiccu	-	
ʈ	-	-	ka ʈ iccu	samgha ʈ iccu	-	
ʈh	-	-	-	ʃa ʈhiccu	-	
ɖ	-	-	-	taa ɖ iccu	-	
c	ceytu	coodiccu	-	vicaariccu	-	
ch	-	cheediccu	-	vicc͡heediccu	-	
j	-	jiiviccu	-	puujiccu	-	
k	koticcu	koopiccu	pukaccu	upakariccu	-	
kh	-	kheediccu	-	ʃeekhariccu	-	
g	-	gauniccu	-	bhaagiccu	-	
gh	-	ghoo iccu	-	ʃlaaghiccu	-	
m	maticcu	mariccu	amarum	ramiccu	varum	jaɲ
n	n̄aaRi	nindiccu	-	-	-	
n	-	-	n̄anayum	maaniccu	varaan	jaɲ
ɳ	-	-	taɳ uttu	guɳ iccu	-	
ɲ	ɲ ekki	-	-	-	-	
l	-	lajjiccu	oliccu	caliccu	vannaal	jaɭ
ɭ	-	-	oɭ iccu	meeɭ iccu	-	
r	raaki	ramiccu	turakkum	variccu	-	
R	Raaɲ ci	-	tuRakkum	-	-	
s	soɭɭ i	saadhiccu	kasaRi	rasiccu	-	
ʂ	-	-	muʂ iccu	du iccu	-	
ʃ	-	ʃeeʂ iccu	viʃ akkum	aaʃ iccu	-	
h	-	hoomiccu	-	sahiccu	-	
v	varum	vahiccu	kaviyum	bhaaviccu	-	
ɣ	-	-	oɣ iccu	-	-	
y	-	yoojiccu	viyarttu	n̄ayiccu	-	

TABLE 1.4

and medially /ph/ are also not attested. All other possible aspirated plosive and affricate articulations occur initially and medially in marginal forms. In my idiolect there is practically little or no distinction between voiced and voiceless varieties of aspirated plosives (See experimental findings in 8.2.12). Voiced and voiceless varieties of aspirated plosives are distinguished only in learned styles of pronounciation which will usually be described as pedantic by the majority of the speech community. The orthography, however, differentiates them and literate Malayalis are careful in noting which lexical item contains which of these. The reading transcription employed in this thesis has chosen to follow this practice. It may also be of interest to note that this is an area where Malayali children commit plenty of mistakes.

TYPES OF CONSONANT ARTICULATION.

1.22 During all consonant articulations described below, the air stream is pulmonic and egressive.

PLOSIVES.

1.23.0 Eight out of the twenty-seven consonant articulations are plosives. These in their turn may be bilabial/p,b/, apical or dorsal. An apical plosive articulation may be dental /t,d/, or retroflex /ʈ,ɖ/ and the dorsal plosive articulation is velar /k,g/ (See experimental findings in 8.1.2).

1.23.1 Kinaesthetically, there does not seem to be any plosive articulation in Malayalam, for which the passive articulator is the hard palate. A voiceless palatal affricate articulation, which is [ʧ] in I.P.A. terms and represented as /c/ in the reading transcription does

occur in many Malayalam verbal forms (See 8.1.2). This is to be distinguished in Sanskrit loanwords from a voiced palatal affricate articulation which is represented in I.P.A. and the reading transcription as ⁀dʒ⁀ and /j/ respectively. In anticipation of the phonological treatment of both these affricate articulations as terms in the plosive system (3.14), these are discussed in this section with the plosive articulations and a separate category of affricates is not set up.

1.23.2 None of the plosives occurs word finally (See Table 1.4). The retroflex plosives /ʈ/ and /ɖ/ are always medial. Three voiceless unaspirated plosives (p,t/ and /k/ occur initially in native forms. /t, ʈ / and /k/ are the plosives occurring medially in native verbal forms.

1.23.3 /p, t, k/ and their voiced counterparts as well as the aspirated varieties of all these, with the exception, of course, of /th/ (See 1.21), can start a marginal verbal form. Medially, in marginal forms /ph/ is not attested; but there are forms attesting all other possible voiceless and voiced as well as unaspirated and aspirated plosive and affricate articulations.

1.23.4 Even though the Malayalam orthography and accordingly the reading transcription employed in this thesis differentiate voiced aspirated plosives from their voiceless counterparts, it has to be stressed again (See 1.21) that practically all aspirated plosive articulations occurring in common colloquial Malayalam are typically voiceless. A general rule can also be stated that all intervocalic short plosive articulations in native forms are extremely lax and voiced. Intervocalically, in marginal forms also the short voiceless palatal

affricate and all short voiceless plosives tend to be voiced. Consequently there exists little perceptible difference between those articulations symbolized in intervocalic position by orthographic and transcriptional units, which, for example, in word initial position may represent voiced and voiceless varieties of affricates and plosives (See experimental findings in 8.2.10.4).

NASALS.

1.24 The six nasal consonant articulations distinguishable in Malayalam are the following: Bilabial /m/, dental /n̪/, alveolar /n/ retroflex / ɳ /, palatal / ɲ / and velar / ŋ / (See 8.1.3).

Of these /m,n/ and / ɳ / are medial and /m/ and /n/ final in native as well as marginal verbal forms (See Table 1.4). In native verbal forms /m, n̪/ and / ɲ / can occur initially. In marginal forms / ɲ / is restricted to medial position and even there only immediately before homorganic affricate articulations (See 1.23.1 and Table 1.6).

In review, then, of the nasals only /m/ occurs in all positions, namely initial, medial and final. / ŋ / does not occur anywhere singly. /n̪/ and / ɲ / when single occur only initially whereas /n/ is non-initial and / ɳ / only medial.

LATERALS.

1.25 Of the two lateral articulations in Malayalam, one, symbolized by /l/, is alveolar and the other / ɭ / retroflex. (See 8.1.4). Both of them are voiced, highly sonorous continuant, non-fricative and bilateral (Abercrombie 1967 p.50). In intervocalic single occurrences the articulation represented by / ɭ / is a retroflex flapped consonant.

/l/ is typically non-initial in native forms[3] but occurs in all positions in marginal ones (See Table 1.4) / ɭ / is typically medial as far as verbal forms in contemporary colloquial Malayalam are concerned (See footnote to 1.18). It need be distinguished from /l/ usually only in native forms.

FLAPPED.

1.26 There are two flapped articulations represented by /r/ and /R/. /r/ is a voiced palatalized denti-alveolar flapped articulation whereas /R/ is a voiced non-palatalized alveolar flapped articulation (See 8.1.5). Occasionally the articulation of /R/ may involve more than one tap of the tongue tip against the alveolum, but this is not typical.

/r/ is essentially non-final in both native and marginal forms (See Table 1.4). Initially /r/ is very rare in native forms as it is attested by forms derivable from just one verb stem, namely /raak-/ 'to file'.[4] /R/ need be distinguished from /r/ usually only in native forms and in them it is in the intervocalic position the contrast between these two is functional as regards the maximum number of forms. /Raaɲc-/ meaning 'to fly away picking up something' is probably the only verb stem in the language attesting the initial occurrence of /R/.

---

3. Forms derivable from the verb stem /laatt-/ 'to ramble' would seem to be exceptions to this statement. But as a matter of fact even these have free variants beginning with a prothetic vowel: e.g. laatti ~ ulaatti 'rambled'.

4. Burrow and Emeneau (1961 p.17) record a vowel beginning form of even this verb: /iraav-/. /aram/ 'file', a noun, derivable from this verb is also vowel initial.

FRICATIVES.

1.27 Of the four fricatives in Malayalam, the following three are sibilants:

(i) the denti-alveolar /s/

(ii) the retroflex /ʂ/

(iii) the palatal /ʃ/.

These and the velar fricative /h/ are all voiceless, even though none of these has any voiced counterpart in the language, there being, therefore, no question of significant opposition between voiceless and voiced fricatives. Specifying explicitly the active articulator taking part in the articulation of the denti-alveolar sibilant in Malayalam, one can record that it is apical and the close approximation of articulators result, in this case, in a stricture, of which the shape is a horizontal slit (Hockett 1958 pp.72-'3). The palatal sibilant has a laminal articulation (Abercrombie 1967 p.53) during which the tongue tip, naturally, points down.

Regarding the fricative articulations, see the experimental findings given in 8.1.6.

The fricatives, in general, are restricted to marginal forms. In such forms all the fricatives occur intervocalically and /s, ʃ / and /h/ initially. Very rarely, however, the sibilants occur intervocalically in native forms also, as attested, by instances like /kasaRi/ 'fared well', /muʂiccu/ 'stained' and /viʃakkum/ 'will be hungry'. The initial occurrence of /s/ in /soll-/ 'to say', a native verb stem may probably be due to the possible free variation of /s/ and /c/, since /col-/ also meaning 'to say' is of frequent occurrence in the language.

CONTINUANTS.

1.28 Of the three continuant articulations distinguished, the labiodental [ʋ] and the palatal [j] are represented in reading transcription by /v/ and /y/ respectively. Both these are voiced and frictionless.

Both /v/ and /y/ are essentially medial (See Table 1.4). Intervocalically both occur in native as well as marginal forms. /y/ never occurs initially in native verbal forms whereas /v/ is restricted to a handful of lexical items derived from verb stems such as /va-, ve-, vel-, vil-/ meaning respectively, 'to come', 'to place', 'to win' and 'to sell'. Even in marginal forms there are definite restrictions on the occurrence of /v/ and /y/, a detailed study of which will be undertaken in a later section of this thesis (3.8.4).

A third type of consonant articulation represented by / ɽ / and labelled as retroflex continuant deserves special comment. During this articulation the egressive pulmonic air stream passes round the tongue not only bilaterally but also over the tip of the tongue which is raised towards the hard palate thereby resulting in the curling back of the tongue as well (See experimental findings in 8.1.7). The stricture being one of close approximation, this articulation is, in most cases, accompanied by an audible friction which is considerably less in intensity than that available in the pronunciation of fricatives. In being voiced, highly sonorous and continuant, / ɽ / resembles the laterals; but as there is no contact between the active and passive articulators during this articulation, it is not a lateral. Another defence for treating / ɽ /

as a continuant with /y/ and /v/ is that many lexical items in which / ɽ / occurs intervocalically in the dialect under analysis are pronounced with /y/ in some other dialects of the language, such as the Muslim dialect of Calicut. Thus for instance, /paɽutta paɽam koɽiyum/ 'the ripened fruit will fall (from the tree)' acceptable in my idiolect will be something like /payutta payam koyiyum/ in the Muslim dialect of Calicut.

It must be remembered, in this connection, that although the symbol / ɽ / represents a flapped articulation in some North Indian languages like Hindi and Punjabi, in the reading transcription employed in this thesis, it represents only a retroflex continuant articulation as has been described in the preceding paragraph. While, to a certain extent at least, assisting the readers unfamiliar with Malayalam, it is hoped that this convention will not inconvenience those whose speciality includes such North Indian languages also.

/ ɽ / occurs only in native forms and even in them is restricted to medial position (See Table 1.4 and the foot note to 1.18).

IV CONSONANT CLUSTERS.

1.29 Of the different possibilities of immediate phonetic environment of all the consonant articulations in Malayalam, what remain now to be examined are the possibilities of more than one consonant articulation occurring one immediately after another . Such sequences of consonant articulations may occur either within or across word boundaries. Inter-word sequences of consonant articulations result from the sequential occurrence of a consonant ending word and a consonant beginning word.

Logically, any word final consonant articulation can occur just before any word initial consonant articulation and an exhaustive examination of such consonant sequences will have to consider the consonant articulations initiating and closing all words assigned to all grammatical categories in the language. Such a detailed study of all possible inter-word sequences of consonant articulation has not, however, been found necessary for the purposes of the present thesis. This section, therefore, deals with only sequences of consonant articulations occurring within word boundaries, the term "cluster" being restricted to such sequences.

CLASSIFICATORY CRITERIA FOR CLUSTERS.

1.30 The consonant clusters in Malayalam are classified here on the basis of the following four criteria:

(1) Whether the cluster in question occurs in native or in marginal forms or both in native and marginal forms.

(2) The place in structure, of occurrence of the cluster.

(3) The nature of constituent elements of the cluster.

(4) The number of constituent elements of the cluster.

NATIVE, MARGINAL AND COMMON CLUSTERS.

1.31 According to criterion 1, clusters may be "native", occurring only in native forms or "marginal" occurring only in marginal forms or "common", occurring in both native and marginal forms.

Thus, for instances, /lk, ŋḍ/ and /n̪t/ represent clusters which are native, marginal and common respectively. Verbal forms attesting the occurrence of all such clusters are given in example-lists appended to Tables 1.5 and 1.6.

INITIAL MEDIAL AND NON-FINAL CLUSTERS.

1.32 With regard to criterion 2, namely the place in structure of occurrence of the cluster, there may be "initial", or "medial" or "non-final" clusters, depending on whether they occur only word initially or only medially or both initially and medially. At this point, it has to be recorded that no consonant cluster occurs word finally in Malayalam.

/vy, nt/ and /gr/ are examples of initial, medial and non-final clusters occurring in marginal forms.

IDENTICAL ELEMENT CLUSTER.

1.33.0 The nature of the constituent elements of a cluster can be examined from the following two different points of view:

(i) Whether or not the elements are identical.

(ii) The types of articulation involved.

Thus, it would seem the long consonants which are represented in reading transcription by duplicating the appropriate symbols can be considered as consonant clusters with idential elements and labelled "identical element clusters". The place and manner of articulation and the position of the vocal cords remain constant throughout the articulation of such long consonants, there being no release anywhere during the course of the articulation. That is to say, the duplication of symbols in reading transcription employed in this thesis should not in any context be taken to refer to double articulation. If the articulation involved is a type of plosive or affricate as, for instance, in /pp/ and /cc/, the closure-phase (Abercrombie 1967 p.140) of the articulation is considerably extended and the articulation, as a whole, is felt to be very tense. In the case of nasals and laterals (e.g./nn, ll/) long articulation means an extended

duration of the consonant articulation in question.

1.33.1 Long consonants corresponding to those symbolized by /ɖ, g, r, R, s, ʃ, h, v/ and /ɣ/ do not occur in any verbal forms current in contemporary colloquial Malayalam. It may also be noted that long consonants corresponding to the articulations symbolized by /r, R, h/ and /ɣ/ are not attested in the language, even if all verbal and non-verbal forms in the language throughout its history are examined. The very rare occurrence of articulations represented by /ɖɖ, gg, ss/ and /ʃʃ/ is restricted to Sanskrit loan words. The short articulation corresponding to the long tense alveolar plosive represented by /RR/ does not occur in any verbal forms in the language. Although the short non-palatalized flapped articulation is represented in reading transcription by /R/, it cannot, obviously, be considered as the short counterpart of /RR/. An articulation that can be described as a short alveolar plosive occurs in contemporary colloquial Malayalam only medially in genitive forms of some nouns and pronouns where it is immediately preceded by the homorganic nasal, as in /raajanRe/ 'of Rajan' and /avanRe/ 'of him'. Where there are instances like /aaRi/ 'cooled' and /aaRRi/ 'made cool' reflecting phonological and grammatical relations and comprising flapped and plosive articulations represented by /R/ and /RR/ respectively, it has been found feasible to reconstruct a short alveolar plosive in the places of structure marked by the orthographic symbol ൻ in present day Malayalam and by /R/ in the reading transcription employed in this thesis (See 8.1-4 for experimental findings regarding the articulations of /R/ and /RR/.)

1.33.2 Long consonant articulations occur only medially and among them those represented by /tt, cc, mm/ and /nn/ occur both in native and marginal forms. /RR, ʈʈ , kk, n̲n̲, ɳɳ , ɲɲ , ŋŋ , ll/ and / ɭɭ / occur only in native forms whereas /dd/ and/jj/ are restricted to marginal ones.

HOMORGANIC vs HETERORORGANIC CLUSTERS AND NON-IDENTICAL ELEMENT CLUSTER.

1.34.0 An analysis which considers long consonant articulations as identical element clusters has to recognize that they are "homorganic", also as opposed to "non-identical element clusters" (i.e., clusters consisting of non-identical constituents) which may be either homorganic (eg./n̲t/) or "heterorganic" (eg./pr/).

1.34.1 Taking into account the type of articulation involved, the homorganic non-identical element clusters can be assigned to the following different types:

1. Nasal + Plosive; /mp, n̲t, ŋk, ɳʈ ; mb, n̲d, ŋg, ɳɖ ; mbh, n̲dh, ŋgh/
2. Nasal + Affricate: / ɲc, ɲ j/
3. Plosive + Aspirated plosive: /ddh/
4. Affricate + Aspirated Affricate: /cch/
5. Fricative + Plosive: / ʂʈ , ʂʈh/
6. Fricative + Nasal: / ʂɳ /
7. Fricative + Affricate / ʃc/

Of these, / ɳʈ / is the only native cluster; /mp, n̲t, ŋk/ and / ɲc/ are common clusters and all the rest marginal ones.

1.34.2 It may be noted that what have been symbolized as /ddh/ and /cch/ are usually realized in a few marginal forms occurring very rarely

in colloquial Malayalam only as long tense voiceless plosive and affricate articulations respectively. An alternative analysis treating them not as clusters but as single consonant articulations is also feasible.

1.34.3 No intervocalic plosive or affricate in Malayalam, it has already been stated (1.23.4), is absolutely voiceless. Similarly immediately after homorganic nasal no plosive or affricate articulation is completely voiceless. To put is more precisely, in the articulations represented by /mp, nt/ etc., the voicing does not stop before the shutting phase of the plosive articulation; instead, it continues throughout the three phases of it, namely, shutting, closure and release (Abercrombie 1967 p.140. For experimental findings see 8.2.14). Attention might, in this connection be drawn to the usual colloquial style of pronunciation of post-nasal homorganic voiced plosive or affricate occurring frequently in marginal forms in Malayalam. In such a speech style, marginal forms containing nasal plus homorganic voiced plosive or affricate in orthography are pronounced with corresponding homorganic identical element clusters which are in effect long nasals. Thus, wherever in terms of orthographic units there are clusters in which a nasal is followed either (1) by a homorganic voiceless plosive or affricate or (2) by a homorganic voiced plosive or affricate, what one can expect to hear in ordinary pronunciation are (1) nasal plus homorganic voiced plosive or affricate and (2) long nasal respectively.

i.e.	nt > nd	e.g.	cinticcu > cindiccu
	ɲc > ɲj		vaɲciccu > vaɲjiccu
	nd > nn		nindiccu > ninniccu
	ɲj > ɲɲ		vyaɲjiccu > vyaɲɲiccu

1.34.4 Heterorganic clusters naturally comprise non-identical elements because articulations involving different speech organs are bound to result in non-identical constituents of the clusters under discussion. Depending on the type of articulation involved, the following different types of heterorganic non-identical element clusters can be recognized:

1a.	Plosive + Nasal :	/tn̲/ (See 1.35.1)
1b.	Plosive + Lateral :	/kɭ/
1c.	Plosive + Flapped :	/pr, tr, kr, dr, gr, bhr, ghr/
1d.	Plosive + Fricative :	/kʂ, ts/ (See 1.35.1)
1e.	Plosive + Continuant :	/ty, bhy, dhy, khy, dhv/
1f.	Plosive + Plosive :	/bd, tk, thh/ (See 1.35.1)
2a.	Nasal + Plosive :	/mg, mgh/
2b.	Nasal + Fricative :	/ms, mʃ, mh/
2c.	Nasal + Continuant :	/my, ny, nv/
3.	Lateral + Plosive :	/lp, lk, ɭp, ɭk/
4a.	Flapped + Plosive :	/rp, rt, rk, rb, rd, rth, rdh, rgh/
4b.	Flapped + Nasal :	/rm, rn̲, rɳ/
4c.	Flapped + Fricative :	/rʂ, rʃ, rh/
4d.	Flapped + Affricate :	/rc, rj, rch/
4e.	Flapped + Continuant :	/rv/
5a.	Fricative + Plosive :	/sp, st, sk, ʂp, ʂt, ʂk, sth, skh, ʂth, hkh/ (See 1.35.1)
5b.	Fricative + Nasal :	/sm, sn̲, ʂɳ/
5c.	Fricative + Lateral :	/ʃɭ, hɭ/
5d.	Fricative + Flapped :	/sṙ, ʃr/
5e.	Fricative + Affricate :	/ʃc/

5f. Fricative + Continuant : /sv, ʃv/

6a. Affricate + Flapped : /jr/

6b. Affricate + Continuant : /jv/

7a. Continuant + Plosive : /ɽt/

7b. Continuant + Affricate : /ɽc/

7c. Continuant + Continuant : /vy/

1.34.5 The native clusters are restricted to the following types:

3. Lateral + Plosive : /lk, ɭp, ɭk/

4b. Flapped + Nasal : /rn/

7a. Continuant + Plosive : /ɽt/

7b. Continuant + Affricate : /ɽc/

/lp/ of type 3, /rp, rt/ and /rk/ of type 4a and /rm/ of 4b are common clusters. All other heterorganic non-identical element clusters listed above are marginal.

1.34.6 /bd/ of 1f and /vy/ of 7c have their both constituents with the same manner of articulation. In all others, the manner of articulation of the first constituent differs from that of the second.

1.34.7 In native forms, only /pr/ is initial. All other clusters occur only medially in native verbal forms.

1.34.8 /sk, ʃc/ and /hɭ / and other marginal clusters beginning in nasal, lateral, flapped and retroflex fricative articulations (e.g. /mg, lp, rp, ʂp/) are typically medial. /ty, ny, jv, sv, sp, st, sm, sn/ and all those ending in flapped articulation are non-final. Heterorganic non-identical element clusters which have been marked in Table 1.6 as marginal initial ones (e.g. /sr, sp/ etc.) are initial only in the sense that

verbal forms illustrating their occurrence do not usually occur in colloquial Malayalam, with prefixes. Quite exceptionally if any one of them occurs after a vowel final prefix, the cluster in question has to be recognized as non-final.

1.35.0 The following paragraphs are devoted to special comments on certain clusters occurring in verbal forms of the language (See the list of examples appended to Tables 1.5 and 1.6).

1.35.1 Clusters transcribed as /kʂ , ts, tk/ and /tbh/ are pronounced usually as [ʧʂ , ls, lk] and [lbh] respectively (See experimental findings in 8.1.8). A pendantic style of pronunciation of these has a glottal stop in between the two constituents in each case: [k?ʂ , t?s, t?k, t?bh]. Similarly /tn/ and /hkh/ usually involve, in phonetic terms, a glottal stop followed by a dental nasal and a voiceless aspirated velar plosive respectively: [?n̪, ?kʰ]. The reading transcription in these instances follows the conventions of orthography so as to retain the identity of the lexical item in question.

1.35.2 /my/ is phonetically a fully realized voiced bilabial nasal which is immediately followed by a voicedpalatal continuant; it is not a fully palatalized bilabial nasal occurring in forms such as /kaamyam/ 'that which is desirable' which are not relevant for the purposes of the present study.

1.35.3 In verbal forms usually occurring in colloquial Malayalam the palatalized flapped articulation represented by /r/ occurs as the second constituent of consonant clusters only after /d/ and /g/.

e.g. /draviccu/ 'liquefied'

/aagrahiccu/ 'desired'

After all other consonants as well as before all consonants only the non-palatalized flapped articulation represented by /R/ occurs.

e.g. /aakramiccu/ 'invaded'

/ ʃramiccu/ 'tried'

/arppiccu/ 'offered'

/oorttu/ 'remembered'

In my idiolect the contrast between /R/ and /r/ in post-consonantal positions is attested only by the following pair of native verbal forms:

/pRaa ɲ ci/ 'staggered'

/praaki/ 'cursed'

Accordingly, the present transcription distinguishes /r/ from /R/ occurring in clusters only when citing these lexical items; in all other instances only /r/ is recorded, in view of notational economy and typographical simplicity.

1.35.4 The second constituent of the marginal cluster transcribed as /jr/ represents the consonantal part of what is usually known as the "syllabic r" in Sanskrit. Verbal forms for which such a cluster is to be stated are very rare.

LIST OF EXAMPLES FOR TABLE 1.5.

1.36 I. Homorganic identical element clusters:

1.	pp	oppi	'blotted'	8.	nn	uunni	'leaned upon'
2.	tt	katti	'burned'	9.	nn	minni	'glittered'
3.	RR	paRRi	'fixed'	10.	ɳɳ	eɳɳi	'counted'
4.	ʈʈ	poʈʈi	'split'	11.	ɲɲ	teeɲɲu	'wore of'
5.	cc	kaacci	'boiled'	12.	ŋŋ	maŋŋi	'faded'
6.	kk	ḫookki	'looked'	13.	ll	talli	'beat'
7.	mm	tummi	'sneezed'	14.	ɭɭ	poɭɭi	'swelled up'

II Homorganic non-identical element clusters:

1.	mp	amparannu	'wondered'
2.	nt	unti	'pushed'
3.	ɳʈ	caaɳʈi	'threw as a lance'
4.	ɲc	keɲci	'implored'
5.	ŋk	toŋki	'jumped on one leg'

III Heterorganic non-identical element clusters:

A. Initial:

pr	praaki	'cursed'
	pRaaɲci	'staggered' (See 1.35.3)

B. Medial:

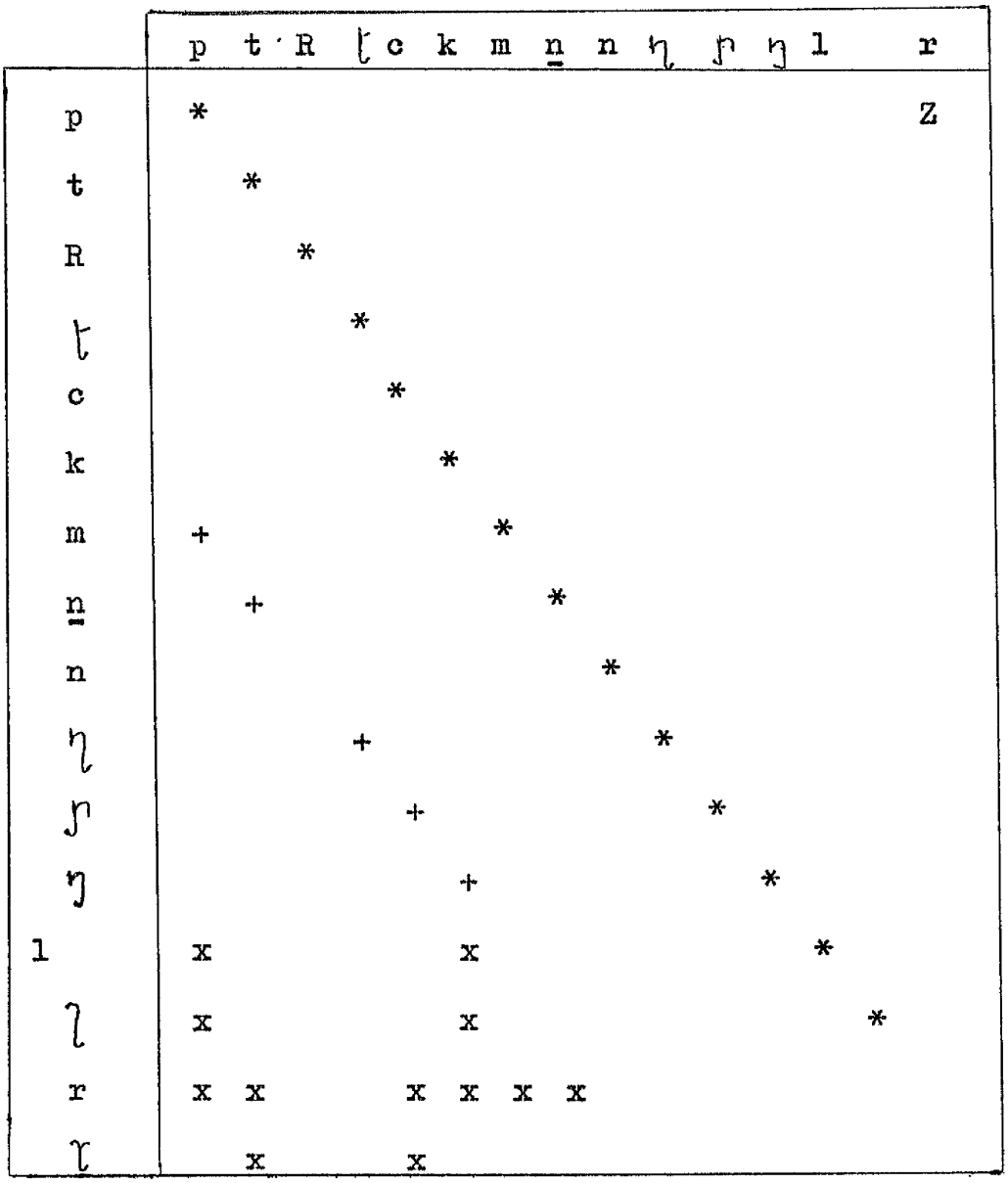
1.	lp	eelpiccu	'entrusted'	7.	rc	tiirccu	'certainty'
2.	lk	nalki	'bestowed'	8.	rk	oorkkum	'will remember'
		eelkkum	'will accept' (See 1.38.4)				
3.	ɭp	keeɭpiccu	'made hear' (1.38.3)	9.	rm	oormmiccu	'remembered'
4.	ɭk	keeɭkkum	'will hear' (1.38.3)	10.	rn	tiirnnu	'finished'
5.	rp	tiirppiccu	'got made'	11.	ɽt	pukaɽtti	'praised' (1.38.3)
6.	rt	caartti	'adorned'	12.	ɽc	viiɽca	'fall' (1.38.3)

LIST OF EXAMPLES FOR TABLE 1.6

1.37

I Homorganic identical element clusters:

1.	mm	sammaaniccu	'rewarded'	4.	jj	lajjiccu	'blushed'
2.	tt	paʃcaattapiccu	'repented'	5.	cc	uccariccu	'pronounced'
3.	dd	uddeeʃiccu	'aimed at'	6.	nn	bhinniccu	'split'



	p	t	R	ʈ	c	k	m	n̲	n	ɳ	ɲ	ŋ	l		r
p	*														Z
t		*													
R			*												
ʈ				*											
c					*										
k						*									
m	+						*								
n̲		+						*							
n									*						
ɳ				+						*					
ɲ					+						*				
ŋ						+						*			
l	x					x							*		
ɭ	x					x								*	
r	x	x			x	x	x	x							
ɽ		x			x										

TABLE 1.5

Two-consonant clusters occurring in native verbal forms.

* Homorganic identical element clusters.

\+ Homorganic non-identical element clusters.

x Heterorganic non-identical element clusters.

Z Initial heterorganic non-identical element cluster; all others indicated in this table are medial clusters.

	r	m	s	t	v	y	k	d	j	p	n	c	bh	dh	h	b	n	kh	gh	ŋ	ɲ	th	ch	g	ṭ	ṭh	ḍ
r		x		x	x	x		x	x	x	x	x		x		x	x	x			x	x		x	x			
m		*	x			x				x	+		+			x	+	x						x			
s	Z	Q		Q	Q		x			Z	Z							Z				Z					
t	Z		x	*		Q	x				x		x														
v						Z																					
ʂ							x			x										+					+	+	
k	Q				Q																Z						
d	Q							*						+													
j	Q			Q					*																		
ʃ	Q			Q							+										Z						
p	Z																										
n̲			+					+						+													
c											*												+				
bh	Q					x																					
dh				Q		Z																					
h																		x			x						
b								x																			
n				x		Q											*										
kh						x																					
gh	Z																										
ŋ							+												+					+			
ɳ																											+
g	Q																										
ɾ									+		+																
l										x																	

TABLE 1.6

Two-consonant clusters occurring in marginal verbal forms.

* Homorganic identical element clusters.

\+ Homorganic non-identical element clusters.

All others are heterorganic non-identical element clusters. Of these, initial, medial and non-final ones are marked by Z, X and Q respectively.

II Homorganic non-identical element clusters:

1.	mp	sampaadiccu	'earned'	10.	nd	nindiccu	'despised'
2.	mbh	sambhaviccu	'happened'	11.	ndh	sandhiccu	'joined'
3.	mb	sambandhiccu	'associated'	12.	cch	pucchiccu	'despised'
4.	ṣṇ	uṣṇiccu	'became hot'	13.	ṇk	aṇkuriccu	'sprouted'
5.	ṣṭ	mooṣṭiccu	'stole'	14.	ṇgh	saṇghaṭiccu	'united'
6.	ṣṭh	kaaṣṭhiccu	'excreted'	15.	ṇg	prasaṇgiccu	'lectured'
7.	ddh	siddhiccu	'obtained'	16.	ṇḍ	khaṇḍiccu	'cut'
8.	ʃc	niʃcayiccu	'decided'	17.	ɲj	vyaɲjiccu	'implied'
9.	nt	cinticcu	'considered'	18.	ɲc	vaɲciccu	'deceived'

III Heterorganic non-identical element clusters:

A. Initial. (See 1.34.8).

1.	sr	sraviccu	'oozed out'	7.	vy	vyaapiccu	'spread'
2.	sp	spandiccu	'pulsated'	8.	kl	klee ʃiccu	'struggled'
3.	sn	sneehiccu	'loved'	9.	ʃl	ʃlaaghiccu	'praised'
4.	skh	skhalliccu	'emitted'	10.	pr	prayoogiccu	'used'
5.	sth	sthaapiccu	'founded'	11.	dhy	dhyaaniccu	'meditated'
6.	tr	trasiccu	'trembled'	12.	ghr	ghraaṇiccu	'smelt'

B. Non-final Clusters:

		Initial Occurence		Medial Occurrence	
1.	sm	smariccu	'remembered'	vismariccu	'forgot'
2.	st	stambhiccu	'became fixed'	astamiccu	'vanished'
3.	sv	sviikariccu	'received'	aasvadiccu	'tasted'
4.	ty	tyajiccu	'abandoned'	parityajiccu	'gave up'

	Initial Occurence			Medial Occurence	
5.	kr	kruu ʃ iccu	'crucified'	aakramiccu	'invaded'
6.	kʂ	kʂ a ɳ iccu	'invited'	aakʂ eepiccu	'insulted' (See 1.35.1)
7.	dr	droohiccu	'hurt'	upadraviccu	'hurt'
8.	jr	jr mbhiccu	'expanded'	vijr ə mbhiccu	'expanded much'
9.	jv	jvaliccu	'blazed'	ujvaliccu	'blazed much'
10.	ʃr	ʃramiccu	'tried'	viʃramiccu	'took rest'
11.	ʃv	ʃvasiccu	'inhaled'	viʃvasiccu	'believed'
12.	bhr	bhramiccu	'became confused'	paribhramiccu	'became perplexed'
13.	dhv	dhvamsiccu	'demolished'	vidhvamsiccu	'destroyed'
14.	ny	nyasiccu	'placed'	sanyasiccu	'renounced'
15.	gr	grahiccu	'held'	aagrahiccu	'desired'

C. Medial Clusters:

1.	rm	nirmmiccu	'made' (See 1.38.2)	12.	rh	arhiccu	'deserved'
2.	rt	aavartticcu	'repeated'	13.	rb	nirbandhiccu	'insisted'
3.	rv	nirvahiccu	'performed'	14.	rgh	diirghiccu	'prolonged'
4.	rʂ	varʂiccu	'showered'	15.	rɳ	nirɳayiccu	'decided'
5.	rk	tarkkiccu	'argued'	16.	rth	samartthiccu	'proved'
6.	rd	nirddeeʃiccu	'directed'	17.	rch	muurcchiccu	'fainted'
7.	rj	garjjiccu	'roared'	18.	ms	samsaariccu	'talked'
8.	rʃ	darʃiccu	'perceived'	19.	my	samyoojiccu	'united well'
9.	rp	arppiccu	'bestowed'	20.	mʃ	samʃayiccu	'doubted'
10.	rc	arcciccu	'offered in worship'	21.	mh	samhariccu	'killed'
11.	rdh	varddhiccu	'increased'	22.	sk	namaskariccu	'saluted'

23.	ts	utsaahiccu	'strived' (See 1.35.1)
24.	tk	satkariccu	'welcomed' (See 1.35.1)
25.	tn̲	prayatn̲iccu	'strived' (See 1.35.1)
26.	tbh	utbhaviccu	'originated' (See 1.35.1)
27.	ṣk	ni ṣ kar ṣ iccu	'paid attention to'
28.	ṣp	pu ṣ piccu	'flowered'
29.	bhy	abhyasiccu	'got trained'
30.	hkh	duhkhiccu	'grieved' (See 1.35.1)
31.	hl	aah l aadiccu	'rejoiced'
32.	bd	ʃabdiccu	'sounded'
33.	nv	anvee ṣ iccu	'enquired'
34.	khy	vyaakhyaaniccu	'annotated'
35.	lp	kalpiccu	'ordered'

1.38.0 Finally, all the clusters discussed above may be examined in the light of the fourth criterion of classification of clusters mentioned in 1.29 and it may be noted that all of them are two-consonant clusters.

1.38.1 It deserves special mention, in this connection that although aspirated plosives are represented in this reading transcription by two separate symbols in each case (e.g. /ph, bh/ etc.), they are treated here only as single consonant articulations and not as two-consonant clusters (See 3.6.5). Accordingly, clusters in which /r/ is followed by an aspirated plosive or affricate and those in which an aspirated plosive or affricate is followed by /v/ are treated only as two-consonant clusters even though their usual orthographic representation may be transliterated as /rddh, rtth, rcch/ and as /ddhv, cchv/.

1.38.2 Non-fricative consonants occurring immediately after /r/ in Malayalam are, as a rule, considerably longer than when they occur elsewhere and are usually represented in Malayalam orthography by the doubling

of the symbols for the respective consonant articulation so that the resulting orthographic symbol can be transliterated as /rtt, rdd, rcc, r ηη, rvv/ etc. As all these represent phonetically a flapped articulation followed by the respective long consonant, these are treated as clusters consisting of two consonants only and not of three.

1.38.3 Similarly the voiceless affricate and any voiceless plosive occurring immediately after /l, ɭ / and / ɣ / also are generally long and tense, irrespective of whether or not the symbol for plosive and affricate is duplicated in the orthography and accordingly in the reading transcription e.g. /eelpiccu, kee ɭ ppiccu, puka ɣ tti, vii ɣ ca/. The clusters in question are treated as two-consonant ones.

1.38.4 Clusters involving /l/ followed by voiceless velar plosive deserve special treatment in this respect because in them there is a possibility of contrast between short and long plosive articulation occurring after /l/, as illustrated by instances like /pulki, nalki; eelkkum, vilkkum/. In order to distinguish clusters of this type in which short and long plosive articulations contrast from those in which there is no such contrast, it would be convenient to state two types of plosive or affricate final cluster:

(i) Those in which the final constituent of the cluster is short e.g. /lk/.

(ii) Those in which it is long e.g. /lkk/.

In a later section of this thesis, (3.6.1), this phonetic difference will be correlated with quantitative difference of the syllables involved. It should, however, be recorded here that there are only very few instances

showing a functional contrast between these two types of cluster.

THREE-CONSONANT CLUSTERS.

1.39 The maximum number of constituents of clusters to be recognized in verbal forms in the language is three. Only the following five three-consonant clusters need be stated as far as the data analysed is concerned:

1.	mbhr	sambhramiccu	'perplexed'
2.	n̲tr	niyan̲triccu	'controlled'
3.	ŋkr	saŋkramiccu	'crossed'
4.	ɳkr	niɳkramiccu	'went out'
5.	cchv	ucchvasiccu	'exhaled'

All these are marginal, medial, heterorganic non-identical element clusters and restricted to a few lexical items. Note that in 1.34.2 a possibility of treating /cch/ as a single consonant articulation has been pointed out. In that case /cchv/ has to be treated only as a two-consonant cluster. Further, it may be noted that items 1 - 4 are /r/ finals and in 1 - 3, this /r/ is preceeded by what is analysable as a homorganic non-identical element cluster in each case.

2. GRAMMATICAL OUTLINE

CHAPTER 2

GRAMMATICAL OUTLINE

2.0 One of the basic tenets of prosodic phonology which advocates a 'polysystemic approach' in every step is that any phonological statement has to consider beforehand the needs of grammatical analysis (see more about this point in 0.7.5 and Palmer 1955 p.549). The phonological analysis that follows (chapters 3-7) is, therefore, set within the framework of the grammatical analysis attempted below.

2.1 Any grammatical description of Malayalam based on formal criteria has to distinguish at least three major grammatical categories in the language. They are Verb, Noun and a third which is different from both verb and noun and can be designated Clitic, in accordance with the usual practice of many modern descriptive linguists working on Malayalam.

2.2 Morphological contrast as regards tense is, perhaps, the most striking grammatical characteristic of verb in Malayalam. Thus, for instance, we have /uutunnu, uutum/ and /uuti/ the present, future and past tense forms of a Malayalam verb meaning 'to blow'.

2.3 The noun (including all its sub-classes like pronoun) in the language is distinguished by the availability of forms contrasting mutually with regard to case. Thus there are /makan, makane/ and /makanoo ~ u/ the nominative, objective and sociative case forms of a Malayalam noun meaning 'son'.

2.4 Forms which cannot be assigned to either of the above categories can be considered as members of the third category namely clitic. Clitics are, therefore, forms to which the grammatical contrasts of tense and case are not relevant. Without going into the details of classification of

clitics in the language, it may be mentioned that /u⌊an/ 'at once', /ini/ 'after thus much' etc. are "free clitics" and /um/ and /oo/ in /avanum ava⌋um/ 'he and she' and /avanoo ava⌋oo/ 'he or she' are "bound clitics".

Since the scope of this study is restricted to verbal forms in Malayalam, only the category labelled verb is examined in detail here.

2.5 Morphologically, a "word" in Malayalam is the "minimum free form" (Bloomfield 1961 p.178) which is internally stable in terms of the order of its constituents but positionally mobile in the sense that it is permutable with other words in the same sentence (Lyons, 1968 p.203). A word may be monomorphemic or polymorphemic. Monomorphemic words generally belong to the class noun or free clitic.

e.g. aana 'elephant' - Noun

ini 'after thus much' - Free clitic

Polymorphemic words may be structurally of the following types:

(i) Verb stem + suffix(es) with or without linking elements:

e.g. talli 'struck'

talliyaal 'if struck'

ciriccaal 'if laughed'

(ii) Noun stem + suffix(es) with or without linking elements:

e.g. aanayu⌊e 'of (the) elephant'

aanaka⌋u⌊e 'of (the) elephants'

(iii) Free clitic + Bound clitic(s) with or without linking elements:

e.g. u⌊ane 'at once'

iniyum 'again'

(iv) A group of more than one bound clitic:

e.g. i ŋŋ u 'here'

a ŋŋ ane 'in that manner'

Of these, only the forms belonging to (i) fall within the scope of this thesis.

2.6 Forms like /uutunnu, uutum/ and /uuti/ have been identified above (2.2) as verbal forms. The stem is, in many cases, the constant element in the formal scatter (Firth 1935 pp.45, 47) of a verb and it differentiates one lexical item from another where there is identity of suffixes. Thus the lexical difference between /caarri/ 'reclined' and /uuti/ 'blew' lies in the fact that even though there is complete identity of suffix elements in both items the stems transcribed as /caar-/ and /uut-/ are different. It may be noted that these morphological abstractions namely stem and suffix are justifiable phonologically also. As the phonological structure of verb stem and verb affixes in the language will be studied in detail at a later stage in this thesis (Chapters 4, 5 and 7), this point requires no further elaboration here.

2.7 Verbal forms which can occur as finite verbs and thereby function syntactically as the predicate of the sentence in which they occur may be any one of the following:

(i) A finite verb conjugated for any one of the three tenses: present, future and past.

(ii) The optative form of a verb.

(iii) The imperative (singular or plural) form of a verb and

(iv) A verbal noun.

Of these, the predicates of types (i) and (ii) can have, in contemporary Malayalam, subjects of any gender, number and person . Thus, for instance, the following combinations are possible;

I	sg.	ɲaan	uutunnu	'blow-pr.'
I	pl.ex.	ɲaŋŋaɭ	uutum	'will blow'
I	pl.in.	nammaɭ	uuti	'blew'
II	sg.	nii	uutaṯṯe	'let blow'- optative
II	pl.	niŋŋaɭ		
III	m.sg.	avan		
	"	ivan		
III	fe.sg.	avaɭ		
	"	ivaɭ		
III	g.pl.	avar		
	"	ivar		
III	ng.sg.	atu		
	"	itu		
III	ng.pl.	ava		
	"	iva		

2.8 The majority of statements in Malayalam end with either /aaɳə/ or /aakunnu/, both of which are analysable as present tense forms of the Malayalam verb meaning 'to be'. In a few instances, as in the following, when statements end without either /aaɳə/ or /aakunnu/ and when they are essentially of the structure noun + verbal noun, the verbal noun concerned may be conveniently treated as the predicate of the sentence:

itu[1] jiivitam (aaɳə) 'This is life'

atu niintal (aakunnu) 'This is swimming'

2.9 In contemporary Malayalam, between the subject and the predicate, usually there is no agreement with regard to person, number and gender. In sentences with imperative predicate, however, subjects of the second person only occur. Moreover, the singular and plural subjects usually occur only with singular and plural predicates, as shown below:

niii uutə 'you - sg. blow'

niŋŋal uutin 'you - pl. blow'

But even in imperative sentences, occasionally a plural predicate may be found to take a singular subject.

2.10 Any verbal form, functioning as a finite predicate or occurring as an infinite form enters into its own characteristic colligational relations (See Firth in Palmer 1968 p.181; Robins 1967 p.234) with other verbal, nominal and clitic forms which occur in the same sentence. Depending on the grammatical category of the constituents involved, these relations are of three types:

I Relations involving nominal and verbal forms.

II Those involving clitics and verbal forms.

III Those involving only verbal forms.

Of these, this thesis proposes to discuss only the last type in detail. The first and second types of relation are briefly mentioned and illustrated

---

1. Word-divisions are shown in transcription of sentences or phrases by such spaces wherever such a procedure will not prejudice the final phonological analysis.

below and these will be referred to later only if the reference to any particular aspect of these will clarify the point under discussion further (See for instance 7.14.5 where inter-relations of relative participle and nominal forms are discussed).

I RELATIONS INVOLVING NOMINAL AND VERBAL FORMS.

2.10.1 There are six different patterns of such relations. In essence, these are all instances of case relations between noun and verb. The genitive and vocative cases do not, of course, enter into colligational relations with the verb.

1. Nominative case form of a noun which functions as the subject + verb:

   e.g. amma pooyi '(The) mother went'

2. Objective case form of a noun + verb:

   e.g. ka ⟩⟩ aneppi ⟩ iccu 'Caught (the) thief'

3. Instrumental case form of a noun + verb:

   e.g. atinaalppookum 'Because of that (I) will go'

4. Sociative case form of a noun + verb:

   e.g. acchanoo ⟩u paRayum 'Will tell father'

5. Dative case form of a noun + verb:

   e.g. makanu ko ⟩uttu 'Gave to (the) son'

6. Locative case form of a noun + verb:

   e.g. vii ⟩⟩ ilppooyi 'Went home'

II RELATION INVOLVING CLITIC AND VERB.

2.10.2 The only possible pattern is exemplified by the following:

naa ⟩ eppoo 'Go tomorrow'

III RELATIONS INVOLVING ONLY VERBAL FORMS.

2.10.3 Of these, four different patterns are possible in Malayalam:

1. Verbal participle + verb:

e.g. ഓടിപ്പോയി oo ṭippooyi 'Went running'

കേക്കപ്പറഞ്ഞു kee ṛkkeppaRaɲɲu 'Said so as to hear'

2. Purposive infinitive + verb:

e.g. പറയാൻ പോയി paRayaan pooyi 'Went to say; was about to say'.

3. Conditional + verb:

e.g. കണ്ടാൽപ്പറയുവു kaṇṭaalppaRayuu 'Tell, if (you) see'

4. Nominative case form of a verbal noun functioning as the subject + verb

e.g. കളി കഴിഞ്ഞു kaḷi kaḻiɲɲu '(The) play is over'

2.10.4 Relative participles such as /eriɲɲa/ 'that which burned' and relative participle bases like /eri/ 'that which burned or burns or will burn' occur in colligational relations with nouns only:

e.g. eriɲɲa tii 'the fire which burned'

eritii 'the fire which burns'

(devoid of any reference to tense).

However, as it is a verb stem which underlies these forms, colligational relations involving these forms also will be examined in this thesis in their appropriate context (7.14.4).

2.10.5 To sum up, then, all forms which are morphologically derivable from verb stems are discussed in the present study, that is to say, while including verbal nouns and agentives (2.20) this study excludes all other nouns and all clitics.

2.11 The following sections consider from a functional point of view the grammatical categories found to be relevant for the purposes of the

present investigation.

TRANSITIVE vs INTRANSITIVE FORMS.

2.12 The possibility of colligation between the non-causative forms (2.14) of the verb in question and an objective case form or an objective case base form[2] is one of the most striking features of transitivity. To put it differently, a transitive from occurs in colligational relation with an objective case form or an objective case base form:

e.g.	Subject noun	Objective case form	Transitive verb	
	avan	ammaye	kaɳ|u	'He saw (his) mother'
	1	2	3	1 3 2
	puucca	paal	ku|iccu	'(The) cat drank (the) milk'.

2. /goopiye, aanaye, makane/ 'Gopi (a personal name), elephant, son' etc. are examples of objective case forms since an objective case suffix will have to be stated for each of them.
The term 'objective case base form' refers to inanimate noun forms like, /veḷḷam, viral, pensil/, meaning 'water; 'finger' and 'pencil' respectively, which can function as object and colligate with animate noun forms and transitive forms functioning as subject and predicate respectively.

e.g.	goopi	veḷḷam	ku|iccu	'Gopi drank water'
	1	2	3	1 3 2
	goopi	viral	ka|iccu	'Gopi bit (his) finger'
	1	2	3	1 3 2
	goopi	pensil	e|uttu	'Gopi took (the) pencil'
	1	2	3	1 3 2

It may also be noted that in certain specific contexts the objective case suffix will have to be stated even after these forms:

{veḷḷattine, viraline, pensiline} ∧ {kkaaḷ, ppaRRi} 'more than water' 'about water' etc.

Hence the term 'objective case base', meaning the base base capable of taking an objective case suffix. For the usefulness of this concept in the description of the noun morphology and the syntax of Malayalam, refer Nayar, 1965b:260.

The two sentences cited below have intransitive verb predicate and do not contain object noun and are, therefore, conspicuously different in structure from the two cited above.

Subject noun	Intransitive verb	
avan	ciriccu	'He laughed'
1	2	1 2
kiɭi	paRannu	'(The) bird flew'

2.13 Depending on whether or not there are mutually contrasting intransitive and transitive members of the formal scatter of each verb, verbs in Malayalam can be classified into the following three groups.

I GROUP A

Consisting of verbs of which there are intransitive forms but no contrasting transitive forms.

e.g.	ciirkkum[3]	'will swell'	mutirum	'will prepare'
	cirikkum[4]	'will laugh'	uɣalum	'will travail'
	karayum	'will cry'	piRakkum	'will be born'
	noovum	'will suffer pain'	iɾaRum	'will slip'
	nuuɣum	'will creep'		

II GROUP B

Consisting of verbs of which there are transitive forms, but no intransitive forms contrasting with them.

---

3. Hence forth, as a matter of policy, wherever citing of any finite verbal form will suffice, only the future form of the verb under discussion is given. This is because it is structurally as well as typographically simpler than all others; relatively less ambiguous translation-meaning can also be given easily for most future forms.
4. The special colligation exemplified by /avan oru ciri ciriccu/ 'He laughed a laugh', /appu oru karaccil karaɲɲu/ 'Appu (personal name) cried a cry' etc. in Malayalam deserve special treatment since in all such verbal noun + finite verb constructions the verb stem underlying the verbal noun is the same as that in the case of the finite verb.

e.g.	peRum	'will give birth'	a ɽ ikkum	'will beat'
	vilkkum	'will sell'	aa ʃ ikkum	'will desire'
	to ɽ um	'will touch'	ka ɭ ayum	'will lose'
	kakkum	'will vomit'	nukarum	'will imbibe'
	ko ɭ ɭ um	'will fit'	maRakkum	'will forget'
	ceyyum	'will do'	kollum	'will kill'
	corkkum	'will remember'	e ɻ utum	'will write'

III GROUP C

Consisting of verbs of which there are mutually contrasting transitive and intransitive members of the formal scatter. As the formal features characterizing the intransitive and corresponding transitive forms of different verbs of this group will be discussed in detail and appropriate phonological statements arrived at in a later chapter (See 7.1), nothing more than listing some telling examples is attempted here. Among the examples presented in Table 2.1, the first row (1a-12a) gives the intransitive forms and the second (1b-12b) the corresponding transitive forms; this pattern is kept throughout this table. Only the future and past finite forms are listed. The present finite forms which are identical with the future forms in all respects other than in suffix-structure (cf. f:/ muRukum/, pr:/muRukunnu/) are omitted.

CAUSATIVE vs NON-CAUSATIVE FORMS.

2.14 Causative verbal forms in Malayalam can have colligational relations with two objects. An examination of the following two sentences will make the functional difference between causative and non-causative forms of verb clear:

	FUTURE	PAST	IDENTIFICATORY GLOSS
1a	muRukum	muRuki	'to be tightened'
1b	muRukkum	muRukki	
2a	aaɽum	aaɽi	'to dance'
2b	aaɽɽum	aaɽɽi	
3a	eeRum	eeRi	'to increase'
3b	eeRRum	eeRRi	
4a	niiɭum	niiɳɽu	'to be lengthy'
4b	n̄iiɽɽum	n̄iiɽɽi	
5a	cuɣalum	cuɣannu	'to rotate'
5b	cuɣaRRum	cuɣaR̄R̄i	
6a	kuumpum	kuumpi	'to fold'
6b	kuuppum	kuuppi	
7a	poŋŋum	poŋŋi	'to rise'
7b	pokkum	pokki	
8a	taaɣum	taaɳu/taaɣnnu	'to descend'
8b	taaɣttum	taatti/taaɣt̄t̄i	
9a	tiirum	tiirnnu	'to be finished'
9b	tiirkkum	tiirt̄t̄u	
10a	uɳarum	uɳarnnu	'to wake up'
10b	uɳarttum	uɳart̄t̄i	
11a	kariyum	kariɲɲu	'to be dried'
11b	karikkum	kariccu	
12a	teeyum	teeɲɲu	'to wear of'
12b	teeykkum	teeccu	

TABLE 2.1

(i) Subject + Object + Non-causative verb:

avan	paaṭṭu	keeṭṭu		'He heard (the) song'
1	2	3		1 3 2

(ii) Subject + Object 1 + Object 2 + Causative verb:

avaḷ	avane	paaṭṭu	keḷppiccu	
1	2	3	4	
				'She made him hear (the) song'
				1 4 2 4 3

Thus causative vs non-causative is another dimension on which contrast is to be recognized between members of the formal scatter of any Malayalam verb. Table 2.2 lists sufficient examples of causative future(1a-13a) and past (1b-13b) finite forms commonly occurring in the language.

Forms such as /iṭiippikkum, ceyyippikkum/ which would seem to testify to the possible existence of a second degree of causation in Malayalam are available colloquially. Mostly, these are restricted to those verbs which do not have /-ppi-/ in their first degree causative forms. Functionally, however, in almost all instances, such "double causatives" are equivalent to causatives proper such as /iṭiikkum, ceyyikkum/ etc., and so even if a separate verbal category called "double causative" is set up for Malayalam, in most dialects both types of causative derivable from a given verb stem will be mutually in free variation.

TENSES.

2.15 Three tenses namely past, present and future are to be stated to handle the verbal forms in Malayalam. Table 2.3 giving finite verbal forms in all instances is intended to bring out the contrast among these three tenses.

	FUTURE	PAST	IDENTIFICATORY GLOSS
1a	eelkkum	eeRRu	'to undertake'
1b	eelppikkum	eelppiccu	
2a	kee ɻ kkum	kee ʈʈ u	'to hear'
2b	kee ɻ ppikkum	kee ɻ ppiccu	
3a	cirikkum	ciriccu	'to laugh'
3b	cirippikkum	cirippiccu	
4a	tuRakkum	tuRannu	'to open'
4b	tuRappikkum	tuRappiccu	
5a	vi ʈ um	vi ʈʈ u	'to release'
5b	vi ʈ iikkum	vi ʈ iiccu	
6a	peRum	peRRu	'to give birth'
6b	peRiikkum	peRiicu	
7a	to ɽ um	to ɽ utu	'to salute'
7b	to ɽ iikkum	to ɽ iiccu	
8a	ceyyum	ceytu	'to do'
8b	ceyyikkum	ceyyiccu	
9a	noovum	nontu	'to suffer pain'
9b	noovikkum	nooviccu	
10a	oo ʈ um	oo ʈ i	'to run'
10b	oo ʈ ikkum	oo ʈ iccu	
11a	tinnum	tinnu	'to eat'
11b	tiiRRum	tiiRRi	
12a	u ɳɳ um	u ɳʈ u	'to eat'
12b	uu ʈʈ um	uu ʈʈ i	
13a	kaa ɳ um	ka ɳʈ u	'to see'
13b	kaa ʈʈ um	kaa ʈʈ i	

TABLE 2.2

PAST	PRESENT	FUTURE	IDENTIFICATORY GLOSS
uuti	uutunnu	uutum	'to blow'
ciriccu	cirikkunnu	cirikkum	'to laugh'
ceytu	ceyyunnu	ceyyum	'to do'
kanattu	kanakkunnu	kanakkum	'to become heavy'
iṯṯu	iṭunnu	iṭum	'to put'
uṉṯu	uṉṉunnu	uṉṉum	'to eat'
keeṯṯu	keeḷkkunnu	keeḷkkum	'to hear'
aRRu	aRunnu	aRum	'to be cut'
tooRRu	toolkkunnu	toolkkum	'to fail'
nontu	noovunnu	noovum	'to suffer pain'
kariɲɲu	kariyunnu	kariyum	'to be dried'
taḷarnnu	taḷarunnu	taḷarum	'to be tired'
tinnu	tinnunnu	tinnum	'to eat'
tuRannu	tuRakkunnu	tuRakkum	'to open'
ninnu	nilkkunnu	nilkkum	'to stand'
taaɣnnu/taaṉu	taaɣunnu	taaɣum	'to descend'

TABLE 2.3

It may also be noted that sentences ending in such tense-suffix-final forms are usually simple statements

eg. avan ^ { uuti / uutunnu / uutum } 'He blew/blows/ will blow'.

2.16 Of the finite verbal forms which occur usually in sentence final position, the contrast among the three tenses is relevant to all forms other than optative and imperative including polite imperative. Thus the intransitive or transitive or causative finite form of any verb may be conjugated for any one of the three tenses. Among the non-finite and non-final verbal forms, the contrast among the three tenses is relevant only to the relative participle forms. Verbal forms that are analysed as verbal participle$_2$ and conditional in this thesis always imply past tense although by their very nature no contrast with non-past tenses can be shown in such cases.

OPTATIVE AND IMPERATIVE.

2.17.0 The contrast between the optative and the imperative (including the polite imperative) forms of the Malayalam verb is clear cut in many respects as shown below:

(i) An optative verb predicate can be colligated with subject noun which may be morphologically I, II or III person pronouns whereas an imperative verb predicate can be colligated only with a subject noun which is II person.

e.g. { ഞാൻ aan / നീ nii / അവൻ avan } ^ vara + e 'Let me/you-sg./he come'.
'Let me/you-sg./he come'.

നീ nii varuu/vaa. 'you - sg. come!'

(ii) The contrast between singular and plural is not relevant to an optative predicate, but although rare in contemporary colloquial Malayalam, such a contrast is relevant, to a certain extent, to an imperative predicate.

e.g. { ഞാൻ / ഞങ്ങൾ / നമ്മൾ / നിങ്ങൾ / നി a / avan / avar / etc. } ^ vara‍tte 'Let me/us-ex. & in/ you-sg. & pl./him/them come'.

നീ varuu/vaa 'you-sg. come!'

നിങ്ങൾ varin 'you-pl. come!'

(iii) Very rare occurrence in colloquial Malayalam of one form of polite imperative contrasting with the usual imperative form of the verb may also be recorded and exemplified in this connection. As regards the optative, there is no such polite form at all.

നീ varuu/vaa 'You-sg. come!'

taaṅkaḷ vannaalum 'You-honorific come, please!'

2.17.1 One form of imperative which, in some dialects, is considered to be not polite can also be illustrated here:

niiyum varunneṅkil vannoo[5] 'You-sg.- also come, if you are coming'

niiyum uutunneṅkil uutikkoo 'You-sg.- also blow, if you are blowing'

Instead of such /-oo/ ending forms, in some dialects /-ee/ ending ones such as /vannee[5], uutikkee/ and /uutiyee/[5] are also attested.

---

5. Utterances that are homophonous with these may have different meanings but then they are structurally different from the forms under discussion here. Thus, for example, /vannoo/ comprising a past finite verbal form and the interrogative clitic /-oo/ means 'did (he etc.) come?' /vannee/ and /uutiyee/ may functionally be equivalent to the respective past finite verbal forms when the final /-ee/ may be interpreted as expletive clitic.

PARTICIPIAL FORMS.

2.18.1 Potentiality of occurrence of the form under discussion, as a grammatical unit colligating with a verbal form and presence of appropriate suffix (stated in phonological terms later in this thesis) in each case are the criteria with which (1) Verbal participle$_1$, (2) Purposive infinitive, (3) Verbal participle$_2$ and (4) Conditional are identified. The contrast among these grammatical categories is illustrated below:

1. VERBAL PARTICIPLE.1

avan amma keeɻkke paRaɲɲu 'He said so that (the) mother may hear'
1 2 3 4 1 4 2

ellu muRiye paɳitu '... worked so that (the) bone may break'.
1 2 3ɻ 3 1

2. PURPOSIVE INFINITIVE.

appu paaʈʈu keeɻkkaan pooyi 'Appu went to hear (the) music'
1 2 3 4 1 4 2

aɳa muRiyaan tuʈaɲɲi '(The) dam started breaking'
1ɳ 2 3 1 3 2

3. VERBAL PARTICIPLE2

goopi keeʈʈu ninnu 'Hearing/having heard, Gopi stood'
1 2 3 2 1 3

viral muRiɲɲu pooyi 'Having been cut, (the) finger went
1 2 3 1 3
i.e., the finger was unknowingly cut'.

4. CONDITIONAL

katha keeʈʈaal mati 'Enough, if (I) hear (the) story'.
1 2 3 3 1

viral muRiɲɲaal karayum '... will cry, if (the) finger is cut!
1 2 3 3 1

2.18.2 It is also to be noted that in contemporary colloquial Malayalam, forms analysable as verbal participle1 of many verbs have become obsolete. Thus, for instance, */oo ɾe/, * /paRaye/ meaning 'while running ' and 'while saying' are not at all in common use.

2.18.3 One type of conditional, other than the one exemplified above, is attested by /eŋkil/ meaning, literally, 'say-if', but this is perhaps the only example of this type in present day colloquial Malayalam. Moreover, functionally it is a "hooker" which connects two simple sentences together as shown below:

Sentence 1	Hooker	Sentence 2
nii vannu	eŋkil	avan santooʂikkum
1 2	3	4 5

'He will be happy, if you come.'
4 3 1 2

In view of these facts /eŋkil/ is not considered in this thesis as a conditional form.

RELATIVE PARTICIPLE.

2.18.4 Verbal forms assigned to this grammatical category can be identified by three different criteria:

(i) They have the potentiality of occurrence in sentences as syntactic units immediately preceding a noun.

e.g.1 uutunna kaaRRə '(the) wind which blows'

2 uutiya kaaRRə '(the) wind which blew'

3 uutumkkaaRRə '(the) wind which blows/will blow'

/uutum/ in eg.3 occurring as a noun-final syntactic unit is clearly different from a finite verbal form which ends in future tense suffix and

functions as the predicate of the sentence. Such finite verbs always occur sentence-finally, as in examples quoted in 2.7.

(ii) Presence of a grammatically statable suffix having phonological shape appropriate to the context and definable phonologically (7.14.3) is another criterion by which relative participle forms can be identified.

(iii) Finally, there are junctional features which are characteristic of relative participle + noun constructions and different from those characterizing all other types of construction as illustrated below and discussed in detail later (7.14.5).

Relative participle + noun:

vanna kuṭṭi '(the) child which came'

Noun + Noun:

aanakkuṭṭi '(the) elephant cub'

It may also be noted here that corresponding to forms like /uutunna/ and /uutiya/ there are negative relative participle forms as well, such as /uutaatta/ and /uutaaṉṉa/, meaning, respectively,'that which does not blow' and 'that which did not blow'.

NEGATIVE FORMS.

2.19 At this point, it will be convenient to introduce the contrast between positive and negative verbal forms in the language. /illa/ and /alla/ usually corresponding to /uṇṭə/ and /aaṇə/ respectively, occur in most negative sentences in present day Malayalam:

1a.	siitaykku	daaham uṇṭə	'For Sita - thirst-is: Sita is thirsty.'
1b.	siitaykku	daaham illa	'For Sita-thirst-not: Sita is not thirsty'
2a.	vannatu	siitayaaṇə	'Who has come - Sita - is: It is Sita who has come.'
2b.	vannatu	siitayalla	'It is not Sita who has come.'

Negation of almost any sentence which ends with a finite verbal form which in its turn ends with a non-future tense suffix, may be effected simply by the addition of /illa/ after the finite verbal form.

e.g. Present tense:

a. kaakka paRakkunnu '(The) crow flies.'

b. kaakka paRakkunnilla '(The) crow does not fly.'

Past tense:

a. kaakka paRannu '(The) crow flew.'

b. kaakka paRannilla (The) crow did not fly.'

Now let us consider the verbal piece in negative sentences like /kaakka paRakkukayilla[6]/ meaning '(The) crow will not fly', corresponding to sentences like /kaakka paRakkum/ '(The) crow will fly' which end in finite future verbal forms. The verbal piece in such sentences is analysable as containing a verbal noun /paRakkuka/ followed by /illa/.

The following participial forms derived from /illa/ and /alla/ commonly occur in contemporary Malayalam:

1. VERBAL PARTICIPLE:

/illaate/ 'being without'

/allaate/ 'being not'

e.g. appu paṇamillaate viṣamiccu

'Appu - money - being without - was in difficulty:

Appu was in difficulty without money.'

---

6. This is variable dialectally as /paRakkilla/ and /paRakkuulla/.

paɳ amallaate appuvinə onnum veeɳɭa.

'Money - being not - for Appu - one even - not needed:

Appu does not need anything other than money.'

2. RELATIVE PARTICIPLE:

/illaatta/ 'who is without'

/allaatta/ 'who is not'

e.g. paɳ amillaatta appu 'money - who is without - Appu:
Appu who is without money.'

paɳ amallaatta onnum appuvinə veeɳɭa

'Money - which is not - one even - for Appu - not needed:

Appu does not need anything that is not money.'

In present day colloquial Malayalam the effective contrast between negative and positive forms seemsto be restricted to participial forms as shown below:

(1) nii entaa innale varaaɲɲatə[7] 'You (sg.) - why, to be - yesterday - did not come, that: Why did you not come yesterday?'

(2) innum avan entaa varaattatə[7] 'Today, even - he - why, to be - does not come, that: Why does he not come even today?'

(3) viiɳɭum avan varaatirunnu 'Again - he - having not come - remained: Again he stayed without coming.'

---

7. /varaaɲɲatə / and /varaattatə / are treated here as consisting of relative participle forms /varaaɲɲa/ and /varaatta/ followed in both cases by /atu/ the distant demonstrative non-gender singular pronominal form in the language. Since forms like /varaaɲɲu/ are found to function as finite verb predicate in old texts, it might seem reasonable to hold that /varaaɲɲatə / consists of /varaaɲɲu/ and /atu/. Projecting this analysis to /varaattatə / is, however, not easy or productive. The first constituent of /varaattatə / cannot easily be held to be /varaattuu/ which is usually restricted to poetic style and is in every case preceded by a clitic /-ee/ as in /nii entee varaattuu/ 'you (sg.) - why - come: 'Why don't you come?'

Positive sentences corresponding to 1, 2 and 3 will contain /vannatə , varunnatə / and /vannə / instead of/varaaɲɲatə , varaattatə / and /varaate/.

/veeɳʈaa/ and /kuuʈaa/ occurring frequently in colloquial Malayalam with a prohibitive connotation can be grammatically considered as finite negative verbal forms derived from the verb stems /veeɳ-/ and /kuuʈ-/ respectively. The positive form contrasting with /veeɳʈaa/ is /veeɳam/ and it is also of frequent occurrence in the language. /kuuʈum/ the future form derived from /kuuʈ-/ can not be considered, from a functional point of view, the contrasting positive form corresponding to /kuuʈaa/ in present day Malayalam. An analysis which proposes to handle /veeɳʈaa/ and /kuuʈaa/, however, has to state a negative suffix occurring finally in these forms.

NOUNS DERIVED FROM VERBS.

2.20.0 Two types of noun derived from verbs, namely Agentive and Verbal noun are discussed in this section. Just like any other noun, both these have the potentiality of (i) occurrence before suffixes statable for a system of cases and (ii) functioning as subject or object ~~to~~ in sentences. Forms assigned to these categories are, however, identifiable by the presence in them of appropriate suffixes which can be defined and described phonologically (see 7.20-21) and also by the presence of stems which are statable for formal scatters characterizing verbs in Malayalam.

AGENTIVE.

2.20.1 Almost any given example of agentive is traceable to a verb assigned to a specific conjugation class to be set up later in this thesis (see 7.6). It is usually those verbs with /-i/ final past forms that have agentive forms current in colloquial Malayalam. Three examples of agentive forms commonly occurring in the language are shown below in their appropriate context,

together with the past and future forms of the corresponding verbs:

Past	Future	Agentive Form (under-lined) in its appropriate context.
kotti	kottum	mara ŋ kottiyu ʈ e 'tree - pecker - of: of (the) wood-pecker'
caa ʈ i	caa ʈ um	mara ɲ caa ʈ ika ɭ 'tree-jumpers: Monkeys'
taa ŋŋ i	taa ŋŋ um	cuma ʈ u taa ŋŋ iu ʈ e 'load-carrier-of: Of (the) load carrier'

VERBAL NOUN.

2.20.2 Derivability from verb stem and potentiality of being colligated with the genitive form of a noun are two positive diagnostic features of forms that are assigned to the category called verbal noun in the language.

cf. /tiruttal/ 'corrections' /tirutt-/ 'to correct'

/saaRinRe tiruttal/ '(the) teacher's correction'

Verbal nouns vary considerably in the way in which they are derivable from the corresponding verb and also in their function in the sentences of which they are constituents. Thus /kuu ʈ al/ and /kuu ʈ uka/ both meaning 'the act or process of joining', /ku ʈ utal/ 'excess', /kuu ʈ ə / 'nest or cage', /kuu ʈ ʈ am/ 'an assembly' and /kuu ʈ ʈ ə/ 'accompany or mixture' all different verbal noun forms derived from the verb stem /kuu ʈ -/ commonly occur in the language. It suffices, for the present, to illustrate the various types available with suitable examples. In general it can be seen that verbal nouns in the language signify an action and/or its result, or an object related to the action

referred to by the verb underlying the verbal noun form in question. Table 2.4 shows different types of verbal noun commonly met with in the language. The past and future forms of the corresponding verb are also set against each example of verbal noun.

2.20.3 Of the verbal noun forms listed in Table 2.4, /pa ⌈hippɔ / and /pa ⌈hittam/ have a marginal stem whereas the suffixes and/or junctional elements are assignable to systems which are clearly native. All forms other than these two are native. Marginal verbal noun forms such as /puuja/ 'worship' /vaahanam/ 'vehicle', /yukti/ 'logic' etc. (< /puuji-, vahi-, yooji-/ 'to worship, to bear, to agree') seem to have been borrowed as such from Sanskrit and so the various processes of their derivation from the corresponding verbs in Sankrit have not been discussed in detail in this thesis (See, however, a brief discussion of them in 7.24).

INTER-WORD RELATIONS IN THE VERBAL PIECE.

2.21 The remaining sections in this chapter deal with certain aspects of inter-word relations relevant to the study of the verbal piece in the language. Four different patterns of colligational relations involving only verbal forms have been pointed out in 2.10.3. For the sake of clarity of presentation, there the examples were restricted to those involving one finite verbal form colligating either with one of the three non-finite verbal forms, namely verbal participle$_2$, purposive infinitive and conditional or with a verbal noun. In 2.10.4. colligation of relative participle with noun was also illustrated. Now, as regards potentiality of entering into colligational relations, verbal participle$_2$, purposive infinitive, conditional and relative participle share most features characteristic of finite verbal forms whereas the verbal noun forms share only a few of them. Thus a verbal participle$_2$, or a purposive

PAST	FUTURE	GLOSS	VERBAL NOUN	GLOSS
pooRi	pooRum	to scratch	pooRal	scratch
paaɲɲu	paayum	to run	paaccil	race
paRannu	paRakkum	to fly	paRakkal	flight
koorttu	koorkkum	to string	koorkkal	stringing together
vannu	varum	to come	varuka ∽ varika	coming
ciriccu	cirikkum	to laugh	cirikkuka ∽ cirikka	laughing
kaʈʈu	kakkum	to steal	kaḷḷam	lie
poŋŋi	poŋŋum	to rise	pokkam	height
kuuʈi	kuuʈum	to join	kuuʈʈam	group
naaRi	naaRum	to stink	naaRRam	bad smell
naʈannu	naʈakkum	to walk	naʈattam	walk
paʈhiccu	paʈhikkum	to learn	paʈhittam	learning
konnu	kollum	to kill	kola	murder
oorttu	oorkkum	to remember	oormma	memory
viiɳu	viiɣum	to fall	viiɣca	fall
maRaɲɲu	maRayum	to disappear	maRavə	screen
maRannu	maRakkum	to forget	maRavi	forgetfulness
pakuttu	pakukkum	to divide	pakuti ∽ paati	half
kutti	kuttum	to stab	kuttə	stab
ooti	ootum	to recite	oottə	recital
tiŋŋi	tiŋŋum	to be pressed	tikkə	pressure
tinnu	tinnum	to eat	tiinə	food
ciriccu	cirikkum	to laugh	ciri	laugh
ariccu	arikkum	to filter	aripə	filter
paʈhiccu	paʈhippkkum	to learn	paʈhippə	scholarship

TABLE 2.4

infinitive or a conditional may colligate with both a finite verb and verbal participle$_2$ or a purposive infinitive or a conditional simultaneously. Similarly a relative participle may colligate with both a noun and a verbal participle$_2$ or a purposive infinitive simultaneously. Examples of all such colligations are given below:

1. VP_2 + VP_2 + FVb:

kaattu nookki nilkkum — 'having waited, having watched, will stand: will stand waiting and watching'

2. PvI + VP_2 + FVb:

varaan kaattu nilkkum — 'Will stand waiting to come'
1 2 3 — 3 2 1

3. Con + VP_2 + FVb:

vannaal kaattu nilkkum — 'If (someone) came, (one) will stand waiting'
1 2 3 — 1 3 2

4. VP_2 + PvI + FVb:

vannu nilkkaan paRayuu — 'Tell (him) to come and stand (waiting)'
1 2 3 — 3 1 2

5. PvI + PvI + FVb:

varaan paRayaan pooyi — 'Went to tell (him) to come'
1 2 3 — 3 2 1

6. Con + PvI + FVb:

vannaal nilkkaan paRayuu — 'If came, tell (him) to stand'
1 2 3

7. VP_2 + Con + FVb:

vannu ninnaal tarum — 'Having come, if stood, will give'
1 2 3 — 1 2 3

8. PvI + Con + FVb:

cirikkaan vicaariccaal karayum — 'If intended to laugh, will cry'
1 2 3 — 2 1 3

9. Con + Con + FVb:

vannaal ninnaal pooraa — 'If came, (it is) not enough if stood'
1 2 3 — 1 3 2

10. VP_2 + RP + Nn:

vannu ninna aana — '(The) elephant which stood, after having come.'
1 2 3 — 3 2 1

11. PvI + RP + Nn:

varaan ninna aana — '(The) elephant which stood (waiting) to come.'
1 2 3 — 3 2 1

2.22 Although these verbal forms, especially the verbal participle and the purposive infinitive, may seem to be capable of being repeated many times in an utterance like, /.....oo ṭiccennu nookkiyiṭṭu maṭaŋŋi vannu niranṉu nilkkum[8]/ or /$varaan_1$ $paRayaan_2$ $aalocikkaan_3$ $tuṭaŋŋi_4$/[9], for reasons other than those that can be exhaustively examined in such a study, inpractical situations combinatory possibilities of this type are far from being limitless. It does not, however, seem feasible to specify what are the maximum limits observable in utterances acceptable to native speakers of the language.

2.23 Almost all colligations in which a verbal noun and a non-finite verbal form are constituents consist of verbal participle + verbal noun constructions like /kutt i kkavarcca/ 'having stabbed - robbery: burglary', /oḷiccooṭṭam/ 'having hidden-race: abscondence' etc.

---

8. 'having run, having reached, having looked, having completed (the action of looking), having returned, having come, having been on a line, will wait: will wait lining up, returning after reaching (there) running and after examining.'

9. 'started to think of asking (....) to come'
4 3 2 1

2.24 It is also observable that the same verbal participle forms may be repeated completely, such repetitions being, in general, expressive of continuity of the action referred to.

e.g. /uutiyuutikku ṯiccu/ 'having blown - having blown - drank: drank continuously blowing (to make the drink cool)!

2.25.0 Apart from all these, there are many instances of colligation of verbal forms in Malayalam in which at least one of the constituents functions as an auxiliary to what may be distinguished, for the time being as a 'principal' verbal form. Grammatically all instances examined below fit into one or the other of the patterns of colligation set up in 2.10.3 and 2.10.4.

2.25.1 The auxiliary verbal forms in the language always follow the principal ones and subscribe to the total meaning of the sentence in various ways. The force of the different aspects and moods of the verb is brought in Malayalam by the combination of various auxiliary verbal forms with the principal verbal form.

2.25.2 Some auxiliary verbal forms are non-final in the verbal piece while there are some others which are always final and there is a third variety of forms occurring in both final and non-final positions. /aay, iṯṯu/ and /eeccu/ are the most common non-final auxiliary verbal forms in the language.

e.g. (1) paRayumaay irunnu 'used to say/might have said'

(2) paRaṉṉiṯṯu upooyi 'having said, went'

(3) paRaṉṉeeccupooyi 'having said, went'

/eekkum/ is perhaps the only auxiliary verbal form occurring only in the absolute final position in the verbal piece.

e.g. vanneekkum 'might come'

All other auxiliary verbal forms occur both in the final and the non-final positions. e.g. /tannu/

(4) paRaɲɲutannu 'said (to me/us) quite willingly'

(5) paRaɲɲutannittu ŋʈə 'has said (to me/us) quite willingly'.

2.25.3 Irrespective of whether auxiliary or principal, the verbal forms occurring finally in the verbal piece usually[10] function as the finite predicate of the sentence whereas most[10] non-final verbal forms are functionally only infinite predicate. See the examples given above in 2.25.2:

/aay, ittu/ and /eeccu/ in 1, 2 & 3: auxiliary and infinite

/irunnu/ and /pooyi/ in 1, 2 & 3: principal and finite

/tannu/ and /u ŋʈə / in 4 & 5: auxiliary and finite

2.25.4 Auxiliary verbal forms in Malayalam can occur after verbal participle$_2$ purposive infinitive and verbal noun forms or after finite verbal forms ending in present or future tense suffixes. In some instances the auxiliary verbal forms occur one after the other. Examples for all such occurrences are given below:

(i) <u>VP + Aux</u>

paRaɲɲittu —— 'having said - having completed (the action of saying)'

paRaɲɲeeccu —— ' ' ' '

paRaɲɲeekkum 'might say'

paRaɲɲukaɻaɲɲu 'said unknowingly or unexpectedly'

---

10. This is to account for instances like /paRayumaayirunnu/ 'used to say/ might have said' and /paRayunnuŋʈə/ 'is saying/will say' etc., which have to be considered, perhaps, as complex finite predicates where /paRayum, irunnu, paRayunnu/ and /u ŋʈə/ all seem to function as finite predicates in their own right.

paRa ɲɲ ukuu ʈaa[11]	'do not say/can not say'
paRa ɲɲ ukoɳʈu[11]	'while saying'
paRa ɲɲ utannu	'said (to I or II person) quite willingly'
paRa ɲɲ uko ʈuttu	'said (to III person) quite willingly'
paRa ɲɲ upoonnu	'used to say'

(ii) VP or PvI + Aux.

paRa ɲɲ upooyi	'said unknowingly or unexpectedly'
paRa ɲɲ uvannu	'used to say'
paRayaan pooyi	'was about to say'
paRayaanvannu	'was about to say'

(iii) VN + Aux.

paRaya ɳam	'please say' or 'should say'
paRaya ɳʈ aa	'do not say'
paRayaam	'(you) may say'

In regard to /paRaya ɳʈaa/ see /vee ɳʈ aa/ discussed in 7.12. See 7.21.5 for further discussion of such verbal noun plus auxiliary verb sequences.

(iv) {VP + Aux$_1$ / prVb} ^ + Aux$_2$[12]

paRa i u	'(I) have said'
paRayunnu	'(I) am saying/ (I) will say'

---

11. In fast colloquial, these are usually telescoped as /paRaɲɲuuʈaa/ and /paRaɲɲooɳʈu/. See, in this connection, also /paRaɲɲooɽuu/ < /paRaɲɲukoɽuu/ meaning '(you) may say' or 'please say'.

12. In such expressions auxiliary forms are numbered 1, 2, 3 etc. from left to right just for convenience of reference.

(v) $$\left\{ \begin{array}{l} \text{VP} \\ \left\{ \begin{array}{l} \text{fVb} \\ \text{VN + Aux}_1 \end{array} \right\} \end{array} \right. \quad + \text{Aux}_2 \left. \right\} \quad \text{Aux}_3$$

paRa ɲɲ irunnu	'(I) have had said'
paRayumaayirunnu	'might have said'
paRaya ɳṭ aayirunnu	'need not have said'
paRaya ɳ amaayirunnu	'should have said'
paRayaamaayirunnu	'could have said'

2.25.5 Auxiliary verbal forms add considerably to the possible length of the verbal piece in the language. Thus, for example, we can come across, in ordinary conversation, long combinations such as:

/paRa ɲɲ uko ṭ utti ṭṭ u ɳṭ aayirunnilla/ 'had not said quite willingly.'

3. PROSODIC AND PHONEMATIC ELEMENTS OF STRUCTURE

CHAPTER 3

PROSODIC AND PHONEMATIC ELEMENTS OF STRUCTURE

3.0 In conformity with the usual practice in prosodic analysis (Sprigg 1963 p.80), the analysis of the phonic data in terms of prosodic systems is undertaken first and this is closely followed by an analysis of phonematic systems.

PROSODIC ELEMENTS: WORD PROSODIES

3.1 The following four features are considered prosodic characteristics of the word as a whole:

1. The number of constituent syllables
2. The closed versus open nature of those syllables
3. Syllable quantity
4. Syllable prominence

NUMBER OF SYLLABLES

3.2 Native verb stems consisting of verb roots alone may be of one to three syllables.

eg.	uut -	'to blow'
	ira -	'to beg'
	ampara -	'to be astonished'

Native stems derivable from non-verbal roots by the addition of a verbalizing suffix /-i-/ contain two to four syllables:

eg.	kalli-	'to harden like a stone'
	ni⌐ali-	'to overshadow'
	karuvaa⌐i-	'to be black or blue'

In marginal stems the verbal root may contain mostly one or rarely two syllables, followed, except in very rare instances (eg. /bhaya-/'to fear', /vilas-/ 'to be bright'), by a monosyllabic derivative suffix of the shape /-i/. Preposed to these marginal verbal roots may be prefixes and/or nominal roots containing one to four syllables.

eg.	vi-hari-	'to play'
	pari-hari-	'to compensate'
	upasam-hari-	'to conclude'
	niraayudhii-kari-	'to disarm'

The number of suffix syllables in a verbal form in Malayalam may vary from one to four.

eg.	uut-i	'blew'
	uut-unnu	'blows'
	uut-ikkunnu	'makes blow'
	uut-ippikkunnu	'causes to blow'

Thus there may be from one to nine constituent syllables in a verbal form in the language. But, as the same number of phonetic syllables may be shared by words of quite different structural patterns (cf. Table 3.1), a classification of verbal forms based merely on the number of their constituent syllables will be quite unproductive, in the sense that it would reveal nothing more than the number of syllables in the phonetic form in question. So such a classification of verbal forms has not been attempted here.

TYPES OF SYLLABLE

3.30 Throughout the discussion of number of syllables in verbal forms given just above, it was tacitly assumed that the number of phonetic

syllables in any utterance is equal to the number of vocalic articulations in it. In this context it would be appropriate to devote some more space to an examination of the structure and different types of syllable in the language from both the phonetic and phonological pointsof view.

3.3.1 Phonetically a syllable in Malayalam consists of an obligatory nucleus which is always characterized by a vowel or diphthongal articulation, preceded and followed optionally by a "releasing" and an "Arresting consonant" articulation respectively. (Abercrombie 1967 pp.39-40).

eg.	taa	'(you) give!'
	uuti	'blew'
	kooti	'combed'
	vaiki	'delayed'
	gauniccu	'considered seriously'

The arresting consonant articulation, if any, of the utterance final syllable will always be simple and voiced.

eg.	pookum	'will go'
	pooyall	'if went'
	pookaan	'to go'

The releasing consonant articulation, if any, of the utterance-initial syllable may be any word initial consonant articulation (1.16, 1.20) which will mostly $\overset{be}{\wedge}$ simple (eg. /k, p/etc) or rarely complex (eg./pr, sp/etc. see 1.34.7, 1.34.8).

eg.	kotti	'pecked'
	potti	'covered up by hand'
	praaki	'cursed'
	spandiccu	'pulsated'

NUMBER OF SYLLABLES					
IN THE ERBAL FORM	PROPOSED ELEMENTS	ROOT	VERBALIZING SUFFIX	OTHER SUFFIXES	EXAMPLES
1	-	1	-	-	poo
2	-	1	-	1	talli
3	-	1	-	2	tallunnu
4	-	1	-	3	tallikkunnu
5	-	1	-	4	tallippikkunnu
3	-	2	-	1	alakki
4	-	3	-	1	amparannu
3	-	1	1	1	kalliccu
4	-	2	1	1	maṉṉaḷiccu
5	-	3	1	1	viRaṉṉaliccu
3	-	1	1	1	hariccu
4	-	2	1	1	astamiccu
4	1	1	1	1	vihariccu
5	2	1	1	1	parihariccu
6	3	1	1	1	upasamhariccu
9	4	1	1	3	niraayudhiikarippikkunnu

TABLE 3.1

The interludes between the nuclei of two successive syllables may consist of any medial simple or complex consonant articulation (see 1.17, 1.20, 1.36, 1.37).

eg. aɣippu 'loosened'

oormmippiccu 'reminded'

3.4.0 Phonologically there are two different types of syllable nucleus, one for which a system of V units (see 3.11) symbolized by V is to be set up and the other, for which a syllabic system symbolized by ə (see 3.9) needs to be set up. The former type of syllable nucleus is characterized phonetically by a wider range of vowel articulations providing different types of phonological contrast discussed in terms of vowel grade, syllable quantity and frontness or backness or the absence of either of these.

3.4.1 From a polysystemic point of view, it would be profitable to recognize different types of syllable depending on whether the "coda" (Hockett 1958 p.85) is zero or not and on the place of occurrence of the syllable in the phonological structure.

3.4.2 Accordingly all syllables for which a C-unit (see 3.13) is stated immediately following the V-unit or ə-unit which forms the syllable nucleus are "closed" and others, for which no C-unit is stated in this position are "open".

eg. The final syllables in

/uutum/ 'will blow' and

/uutuka/ 'blowing', respectively.

3.4.3 The syllables statable for stem and suffix are called "stem syllable" and "suffix syllable" respectively. In polysyllabic stems it may

be, sometimes convenient to distinguish "radical syllable" from the non-radical ones which may occur before and/or after the radical (4.12.3). Preradical syllables, which are in fact prefix syllables need be stated only for the marginal verbal forms in Malayalam. Suffix syllables are common to both the native and the marginal verbal forms of the language. It is also to be noted that stem syllables in the marginal forms differ from those in the native ones.

Strictly speaking, one type of syllable, namely "linking syllable", different from all those mentioned above has also to be distinguished in order to handle that type of junction generalized as syllabic in a later section of this thesis (6.2).

SYLLABLE DIVISION

3.5.0 The principles of syllable division outlined below do not, in any way, presuppose a segmental analysis of the phonic data which is not at all acceptable in prosodic phonology. They are intended merely to help focus attention, whenever needed, on particular parts of utterances under discussion without necessarily going into details of phonetic and phonological features relevant only to the neighbouring parts of those utterances.

3.5.1 1. Interludes for which a single C-unit is stated are normally treated as the onset (Hockett 1958 p.85) of the following syllable.

eg. vii-ti-ccu 'divided'

po-ti-kkum 'will unhusk'

The qualification "normally" has been included in the above statement in order to imply the warning that this procedure is not to be resorted to arbitrarily in all instances without giving due regard to what elements of structure are involved. Thus, for instance, once it is known that /udaahariccu/

'exemplified' comprises two prefixes /ud-/ and /aa-/, the verbal root /har-/, the derivative suffix /-i-/ and the past suffix /-ccu/, there is no point in retaining a syllable division like /u-daa-ha-ri-ccu/ to which this principle leads.

SIMPLE versus COMPLEX INTERLUDES

3.5.2 Interludes for which a single C-unit is stated may be said to be "simple" as opposed to a "complex" one for which a CC or CC is stated. "CC" symbolizes two non-identical C-units occurring contiguously, eg. /pr/. The two C-s in the latter case are underlined to show that the units stated at both of them are the same (eg. /kk/) or have phonetic exponents which are homorganic (eg. /nt/).

3.5.3 2. Complex interludes are treated as the onset of the following syllable (eg. /a-sta-mi-ccu/ 'disappeared'), subject to the following restriction:

/m, n, ɳ, ɲ, l, ɭ, y/ and /r/ at the beginning of such an interlude are treated as the coda of the preceding syllable.

eg.	sam-paadiccu	'earned'
	aanan-diccu	'rejoiced'
	kaaɳ-ke	'while seeing'
	ahaɲ-kariccu	'became proud'
	nil-kke	'while standing'
	keeɭ-kke	'while hearing'
	oor-kkum	'will remember'
	katt ay-ccu	'clotted'

SYLLABLE QUANTITY

3.6.0 "Quantity" used in this thesis is a phonological term and is relevant to the whole syllable. This is to be clearly differentiated from

the phonetic term "length" which is applicable to specific parts of the phonetic syllable namely the relevant portion of the phonic data described in terms of appropriate vowel and consonant articulations. It has also been found useful to restrict the term "duration" so as to refer only to the physical property of the relevant portion of the phonic data measurable by means of instruments, in terms of units of time such as second or millisecond. The terms "long" and "short" are, therefore, restricted to the phonetic level. "Light" and "heavy" which are, in fact, translations of "laghu" and "guru" respectively available in traditional Indian grammars and treatises on versification are used in discussions concerning the phonological level of analysis and description.

HEAVY SYLLABLES

3.6.1 A syllable, for the nucleus of which a $\bar{V}$ or $\bar{\text{ə}}$ or a diphthong (see 3.12) is stated is heavy.

eg.	$C\bar{V}$	poo	'go!'
—	C $\bar{\text{ə}}$ C	pookaan	'to go'

The full significance of the symbols V, ə and C introduced just now will be made clear shortly (see 3.11, 3.10 and 3.13). It would be sufficient, for the time being, to note that generally it is the consonant and vowel articulations that are usually"allotted" (0.7.7), at the phonological level, to C-units and to V-or ə -units respectively. The line over the symbols V and ə indicate that the units involved are long. As long units are marked thus, short ones are specially marked by the sign ˘ only when necessary as in $\breve{V}$ or $\breve{\text{ə}}$ where the units involved are either short or long.

Any syllable for whose nucleus a V or a ə is stated is also

heavy, provided

(i) this V or ə is closed by a C stated in the absolute final position and implying a bilabial nasal as in the following example:

— C ə m varum 'will come'

or (ii) this V or ə is closed by one of the following:

(1) a CC implying any consonant cluster other than /lk/[1], as in ta-kar-ttu 'destroyed'
CVC C

(2) a CC implying a homorganic consonant cluster

as in va-runnu 'comes'

ka-kki 'vomited'
CV-CC

cin-ti 'scattered'
CV̄C-C

(3) a C^g implying a geminate consonant (see 4.7)

as in

mu-Ru-kki 'tightened'
CV-C^g

To sum up, heavy syllables can be of the following patterns:

(i) (C) (C) $\left\{\begin{matrix}\bar{V}\\ \bar{ə}\end{matrix}\right\} \wedge \left(\left\{\begin{matrix}C\\ CC\\ \underline{CC}^g\end{matrix}\right\}\right)$

(ii) (C) (C) $\left\{\begin{matrix}V\\ ə\end{matrix}\right\}$ m ##

---

1. See the difference in quantity of the first syllables in /n̄alkum/ and /vilkkum/ 'will give' and 'will sell' respectively. In the former the first syllable is light whereas in the latter it is heavy. Note that the functional contrast between forms containing the clusters transcribed as /-lk-/ and /-lkk-/ has, already been pointed out in an earlier section (1.38.4).

(iii) (C) (C) $\left\{\begin{matrix} V \\ ə \end{matrix}\right\}$ ^ $\left\{\begin{matrix} CC \\ \underline{CC}_{C^g} \end{matrix}\right\}$

As regards the quantity of a syllable for whose nucleus a V or a ə is stated (see type iii shown above) it is immaterial whether the complex interlude which follows its nucleus is stated as its own coda plus the onset of the following syllable (as in /in-ti/) or as the onset of the following syllable (as in /ka-kki/). Syllable quantity which is a property of the whole word cannot, obviously, be tied down to specific syllables. Often it depends on what follows the given syllable. This is, therefore, an added justification for the treatment of syllable quantity as a word prosody.

LIGHT SYLLABLES

3.6.2 All the syllables which do not fit into the patterns given above, of heavy syllables are light. The patterns of light syllables are thus

(i) (C) (C) $\left\{\begin{matrix} V \\ ə \end{matrix}\right\}$ (C) where, for the final optional C any consonantal articulation other than a bilabial nasal occurring in the absolute final position is statable.

eg. ku-ti 'bounce'
CV-C

gra-hiccu 'held'
CCV-C

va-ru-ka 'coming'
Cə-C

(ii) CVCC where, for the final CC the consonant cluster /-lk-/ is stated, as in

pulkum 'will embrace'

nalkum 'will give'

3.6.3 Given below is a short Malayalam sentence illustrating the application of the principles of syllable division and quantity formulated above:

'Malayalam is my language

H H H H

/ma-la-yaa- ɭa-maa-ŋə en-Re bhaa- ʂ a/ 'Malayalam is my language'

The hyphens mark the syllable-division. As the heavy syllables are marked by H, the light ones are left unmarked.

3.6.4 It may also be of interest to note that this type of syllable division and quantitative analysis of syllables seem to be implied, to a certain extent, in the orthography of Malayalam and the usual way of scanning poetic metres in the language.

3.6.5 Phonologically only a single C-unit (3.13) is stated for those structural places characterized by aspirated plosive articulations (see 1.38.1) and those syllables in which the short V stated is immediately followed by such single C-units are treated as light in quantity. eg. The initial syllables in /pa ʈhiccu/ 'studied' and /abhinayiccu/ 'enacted'.

3.6.6 Durational differences among comparable utterances are correlated in section 8.2.15 with the stating of the prosody of syllable quantity.

SYLLABLE PROMINENCE

3.7.0 "Syllable prominence" used in this thesis is a phonological term referring to one of the word-prosodies. The relative pitch maintained by the speaker during the pronunciations of different syllables in a verbal form is one of the most notable exponents of syllable prominence. Other features like the length of the vocalic articulation involved and what follows it are also to be taken into account in this connection. But as these are handled

in terms of the prosody of syllable quantity to which syllable prominence is closely tied, they are not discussed at this point. Although the place of syllable prominence is, in many cases, characteristic of the whole piece, for the sake of clarity of presentation, it is treated here only as a word prosody.

3.7.1 In general the syllable prominence is statable for the stem syllables rather than for the others. Other things being equal it is for the word initial syllable, syllable prominence is stated.

3.7.2 The prominence of stem syllables in verbal forms with polysyllabic stems is related to the prosody of syllable quantity which, as has already been shown (3.6.1-2) is determined by more than one factor, such as the length of the vocalic articulation stated for the syllable nucleus and what follows it.

3.7.3 The following notations are used in pointing out syllable prominence in stem syllables of Malayalam verbal forms cited below and its relation to syllable quantity:

_/_	Highest degree of prominence
__	Prominence less than that of the syllable marked by _/_
_'_	Prominence less than that of the syllable marked by __

In disyllabic stems only the more prominent syllable is marked. In stems having more than two syllables the least prominent syllable is left unmarked. As in 3.6.3 H indicates syllable quantity which is heavy. L stands for light syllable quantity.

1. /
ettum
H

2. /
arikkum
L H

3. /
pataRum
L L

4. /
kallikkum
H H

5. ookkaaniccu
H H H

6. turumpiccu
L H H

7. oomaniccu
H L H

8. perumaaRi
L L H

9. piRupiRuttu
L L L H

10. karuvaaɭiccu
L L H H

11. viRaŋŋaliccu
L H L H

SYLLABLE PROSODIES

3.8.0 Features of the phonic material which are not referable to the word as a whole but can be referred to specific syllables as a whole are handled in terms of systems of syllable prosodies discussed in the following sections. Features of junction, abstracted in terms of junctional prosodies are not taken up for detailed discussion in this chapter although they are inter-syllable prosodies. Apart from such junctional prosodies there are three systems of syllable prosodies that are taken into account. Of them the three term system whose chief phonetic exponents are frontness, backness and the absence of either of these is the major system as it is relevant to the maximum number of structural places involving native and marginal elements as well as most types of grammatical element such as stem and suffix. Two other syllable prosodic systems stated in this chapter are mutually related (see 3.8.5). They are both two term ones and are minor systems in the sense that each of them is relevant to a few structural places such as the onset of word initial or medial marginal stem syllables. They are (1) the two term system comprising the prosodies of aspiration and its absence and (2) another two term system consisting of the prosodies of breath and voice.

THE MAJOR SYSTEM OF SYLLABLE PROSODIES

3.8.1 Three syllable prosodies denoted in phonological formulae and statements by the superscripts y, w and o constitute this prosodic system. In general the chief phonetic implications of the terms in this system are as follows:

y: frontness of articulation and lip spreading

w: backness of articulation and lip-rounding

o: absence of either frontness or backness; in other words, neutrality of the syllable in question to the y and w prosodic systems.

Different patterns of prosodically contrastive syllables are possible in polysyllabic words in regard to this system of prosodies. The possibilities in trisyllabic words are illustrated in Table 3.2.

3.8.2 The abstracting of y, w and o as syllable prosodies helps in stating the interrelations of adjacent syllables in the phonological structure. An examination of Table 3.2 will reveal the interrelations of choice between vowel articulations available in the first and second syllables in trisyllabic words. Two of the five articulations possible in the first syllable are in the close range: /i, u/; two others in the mid range: /e, o/ and the remaining one in the open range: /a/. In the second syllable the choice is threefold, two of the articulations involved being in the close range, /i, u/ and the third in the open range /a/.

The contrast between a close vowel and a mid vowel in word initial syllable is functional only if the first and second syllables in the word are of the following prosodic patterns:

	PROSODIC PATTERN			PHONETIC FORM OF EXAMPLES.		
	SYL 1	SYL 2	SYL 3			
1	y	y	y	cirikkin	X	cerikkin
2	w	y	y	kutikkin	X	kotikkin
3	o	y	y	karikkin		
4	o	w	y	aṟukkin		
5	y	w	y	ṯirukin	X	perukin
6	w	w	y	kurukkin	X	korukkin
7	y	o	y	cilaykkin	∿	
8	w	o	y	turakkin	∿	
9	o	o	y	karayin		
10	w	w	w	kuruttu	X	koruttu
11	y	w	w	irunnu	X	ettunnu
12	o	w	w	varuttuu		
13	w	y	w	kuticcu	X	koticcu
14	y	y	w	piriccu	X	cericcu
15	o	y	w	valiccu		
16	y	o	w	cilaccu	∿	
17	w	o	w	kulaccu	∿	
18	o	o	w	varaccu		
19	o	o	o	varacca		
20	y	o	o	iranna	∿	
21	w	o	o	tuRanna	∿	
22	w	y	o	kuticca	X	koticca
23	y	y	o	viricca	X	cericca
24	o	y	o	karicca		
25	o	w	o	pakutta		
26	w	w	o	kurutta	X	korutta
27	y	w	o	irunṉa	X	peRunṉa

TABLE 3.2

X Indicates possibility of functional contrast between a close vowel and a mid vowel in word initial syllable.

∿ Absence of such contrast.

SYL 1.	SYL 2.	EXAMPLES
y	y	cirikkin X cerikkin
w	y	kutikkin X kotikkin
y	w	tirukin X perukin
w	w	kurukkin X korukkin

The fact that the vowel articulations in the second syllable of such words will be the closest possible may be viewed as a vowel harmonizing feature of the language. It may also be noted that the y- or w prosodies are functional only as regards the vowel articulations in the close and mid range.

There is no functional contrast between a close vowel and a mid vowel in word initial syllable if the first and second syllables are of the following prosodic patterns:

SYL 1.	SYL 2.	EXAMPLES.
y	o	cilaykkin
w	o	turakkin

This would enable us to appreciate why the vowels in the first syllables of such words represented in orthography and the reading transcription by symbols which usually stand for close front and close back short vowels are often pronounced by Malayalis as considerably less close vowels.

~~3.8.3~~ Mention may also be made of the fact that the functional contrast between different types of vowel articulation is maximally available in stem syllables. As the possibilities of functional contrast among vowel articulations in different structural places will be thoroughly explored in later sections (4.10-12; 5.7-8)of this thesis, nothing more will be said at this stage regarding this point.

3.8.3 THE MINOR SYSTEMS OF SYLLABLE PROSODIES

As has already been stated (3.8.0) both the minor marginal systems of syllable prosodies are mutually related and are two term ones.

1. ASPIRATION AND ITS ABSENCE

3.8.4 The first to be discussed of such minor systems has as its chief exponents aspiration and its absence denoted by h and ɦ respectively. The phonetic implications of these are as follows:

h : a voiceless velar fricative articulation

ɦ : absence of such a voiceless velar articulation

h and ɦ prosodies are mostly relevant to the stems of marginal forms occurring in Malayalam. The C units statable for the structural places where h or ɦ prosodies are stated are mostly those assigned to the plosive system. Examples illustrating this point are listed in 3.8.5.

Occurrence of /h/ initially in marginal verbal roots and intervocalically is also treated in prosodic terms as illustrated below:

Generalized structure of the syllable in question	Phonetic form of the example
$ho_{\underline{A}}$ -	ha-riccu
$hw_{\overline{E}}$ -	hoo-miccu
$ho_{\underline{\ }}$ $_{-\underline{A}}$ -	sa-haa-yiccu

2. BREATH AND ITS ABSENCE OR VOICELESSNESS AND VOICE

3.8.5 The next two term syllable prosodic system to be discussed comprises the prosodies of breath and its absence (i.e. voice) symbolized as b and ɓ respectively. The structural place where these have to be stated are, as in the case of h and ɦ, mainly marginal stem syllables, where the C units stated are terms of the plosive system. As has already been detailed in 1.23.4, aspirated plosive articulations in Malayalam are generally voiceless, the contrast between voice and voicelessness being restricted to unaspirated

plosive articulations. To put it differently ∅ prosodic marginal stem syllables are always ∄ prosodic also. So, in view of notational clarity, in such cases only ∅ is marked leaving ∄ to be assumed to be present even though not marked. On the other hand, b prosodic syllables may be further differentiated as either ∄ prosodic or h prosodic. This state of affairs is illustrated below focussing attention on the stem-initial syllables in some marginal verbal forms in the language.

$\emptyset_{CV(C)}$-	$b\not\emptyset_{\breve{C}\breve{V}(C)}$-	$bh_{\breve{C}\breve{V}}$ -	
ban-dhiccu	pa-ticcu	pha-liccu;	bha-riccu
da-hiccu	tar-kkiccu	————	dha-riccu
ja-yiccu	coo-diccu	chee-diccu;	————
ga-ŋiccu	koo-piccu	khee-diccu;	ghoo-ʂiccu

WORD-INITIAL CONTINUANT ARTICULATIONS

3.8.6 Continuant articulations occurring word initially in Malayalam verbal forms are subject to two types of treatment in this thesis. Both these are discussed below:

I. Phonetically, as may be expected, words beginning with front vowels and back vowels usually have onglides of palatal and labio-dental consonants respectively.

eg.	irannu	⌐ ^{y}i - ⌐	uraccu	⌐ ^{w}u - ⌐
	etti	⌐ ^{y}e - ⌐	ottu	⌐ ^{w}o - ⌐

Phonologically, however, there is no functional contrast to be set up between front and back vowel beginning words and those beginning with a palatal or labio-dental onglide occurring before front and back vowels respectively.

II. There are some other continuant articulations occurring in word initial position which cannot be treated as onglides occurring before

vowels. The labio-dental continuant /v/ occurs initially only before /i, e/ and /a/, whereas word initial /y/ in Malayalam always precedes /u, o,/ or /a/. Phonologically, a functional contrast has to be set up between a continuant beginning word and a vowel beginning word, as shown below:

i ṭṭu	X	viṭṭu	uuti	X	yuutham[2]
etti	X	veṭṭi	ooti	X	yoojiccu
					aacariccu
					vaadiccu
					yaaciccu

The distributional restrictions observed in the language, of such word initial continuant articulation and the vowels that can follow them immediately are indicative of the functional differences of such continuant articulations from the consonant articulations like /p/ and /k/ that are generalized in terms of C-elements of structure. These interrelations of elements of structure are clearly and economically statable in prosodic terms as follows:

If the syllable final is characterized by y and w prosodies, then the syllable initial will be characterized by w and y prosodies respectively. If, however, the syllable final is characterized by the o prosody then the syllable initial may be characterized by either w or y. Table 3.3 provides examples illustrating these statements. As regards the blanks indicated in Table 3.3, it may be noted that /y/ is essentially non-initial in native forms (see 1.28). Short /e/ and short /o/ are not to be distinguished in Sanskrit from /ee/ and /oo/ respectively and, therefore, marginal forms beginning in /ve-/ and /yo-/ are out of the question. The rest of the blanks among marginal examples can be filled only by nominal forms like /vaikalyam/ 'defect', /yuddham/ 'war' /yuutham/ 'herd' /yauvanam/ 'youth'.

2. This is a nominal form cited just to show the pattern. See further about this point in the discussion of Table 3.3.

Generalized structure of word-initial syllables.	Phonetic forms of Native eg.s.	Marginal eg.s
w $\underset{\overline{I}}{\breve{}}$ y	viṯṯu viiticcu	vidhiccu viikṣiccu
w $\underset{\overline{E}}{\breve{}}$ y	vennu veeccu	——— veedaniccu
w $\underset{\overline{A}}{\breve{}}$ o	vannu vaāṭi	vahiccu vaadiccu
w $\underset{\overline{A}}{-}$ y	vaiki	———
y $\underset{\overline{I}}{-}$ w	———	———
y $\underset{\overline{E}}{-}$ w	———	yoojiccu
y $\underset{\overline{A}}{\breve{}}$ o	——— ———	yatniccu yaāciccu
y $\underset{\overline{A}}{-}$ w	———	———

TABLE 3.3

JUNCTION PROSODIES

3.9 Certain features of interrelation between stem and suffixes and between suffixes which are stated successively are set up as prosodies of junction between these elements. Their discussion in any detail, has, however, been postponed to their more appropriate context in the chapter entitled "Junction Structures" (see 6.4).

THE ə UNIT

3.10 Apart from the prosodic elements discussed above there is another type of prosodic element of structure labelled as the shwa unit or the syllabic unit and symbolized as ə , to be set up in this thesis, in order to account for the vocalic articulations discussed in chapter 1 (see Firth in Palmer 1968 p.101). This syllabic unit constitutes a single term syllabic system operative in those places of structure, of which the salient characteristics are syllabicity and absence of any commutability between different types of vowel articulations discussed in terms of vowel grade, syllable quantity and w, y or o prosodies. In general the ə unit is stated as an element of structure in most suffix syllables.

eg. uutunnu
—əCCə

Moreover, ə is stated for the final syllables in most marginal stems and all native trisyllabic stems (4.11.3; 4.12.1-4).

Depending on the place in structure for which it is stated, ə may imply, phonetically almost any of the vowel articulations detailed in chapter 1. When a ə final word and a C initial one are juxtaposed, the junction is usually characterized by the retention of the syllabicity statable for the schwa.

eg. vannu ninnu — ə C — 'stood, after having come'

If it is a V initial word which follows a ə final one then the junction is characterized as follows:

(1) If the preceding word is y- prosodic then the junction is also y- prosodic

eg. irikke + alla > irikkeyalla 'not while sitting'

——ə^{y} V——

(2) If the preceding word is w-prosodic then the final syllabic vowel of it is elided.

eg. vannu + illa > vannilla 'did not come'

——ə^{w} V——

These and similar other junctional relations involving will be more thoroughly dealt with in chapter 6.

PHONEMATIC ELEMENTS OF STRUCTURE.V-UNITS

3.11 In view of the commutability between different types of vowel articulations in different structural places for which the prosodies discussed above such as vowel grade, syllable quantity, w, y and o are statable, the following three V-units representing three grades of openness are set up:

1. I - the close unit
2. E - the mid unit
3. A - the open unit[3]

Of these, the close unit represents the maximum degree of closeness of vocalic articulations possible at a given structural place.

---

3. It should be noted that I, E and A as well as P, N etc., to be introduced later (3.13) are typographically convenient mnemonic signs used in phonological statements and formulae in this thesis instead of the Greek letters usually employed in earlier works on prosodic phonology. They are not to be taken as sharing the implications of the concept of archiphonemes recognized by the linguists of the Prague school.

Usually the phonetic implication of this will be a vowel quality between the close and the half close cardinal vowels.

The open unit represents the maximum degree of openness of vocalic articulation available at a given structural place. The usual phonetic implication of this is a vowel quality between the half open and the open cardinal vowels.

The mid unit represents the intermediate degree of openness or closeness of vocalic articulation possible at a given place of structure characterized by the commutability of all the three V-units. Where only a two-term system of V-units is statable, one of the terms being the mid unit, it represents a tongue position clearly higher than that represented by the open unit or clearly lower than that represented by the close one. Phonetically the mid unit usually implies a vowel quality between the half close and half open cardinal vowels.

The phonetic possibilities of various degrees of frontness, backness and lip-rounding in the different syllables are handled by stating appropriate prosodies abstracted for the purpose (see 3.8.1). Table 3.4 sets forth verbal forms with prosodically contrastive types of stem syllable showing maximum differences in the V units to be stated.

Vunits to be stated	Generalized structure of stems					
	^{y}VC(C)—	$^{y}\overline{\text{V}}$C—	^{w}(C)VCC—	$^{w}\overline{\text{V}}$C—	^{o}VCC	$^{o}\overline{\text{V}}$C—
I	i ɬ um	iirum	untum	uutum	—	—
E	ettum	eeRum	pontum	ootum	—	—
A	—	—	—	—	a ɲ cum	aaRum

Table 3.4

These and innumerable other examples of verbal forms which have been left out of consideration here justify the setting up of a $\overset{\smile}{\overline{V}}_3$ system indicating the maximum choice of V units available in the stem syllables of Malayalam verbal forms.[4] It is to be stressed that there are various kinds of restriction on the choice of terms in the systems of V units statable in different structural places. As separate sections of this thesis are devoted to detailed accounts of systems appropriate to all types of stem and suffix syllable (see chapters 4, 5 and 7), nothing more than this will be said about this point at the moment.

PHONOLOGICAL TREATMENT OF DIPHTHONGAL ARTICULATIONS

3.12 Diphthongal articulations are very rare in Malayalam verbal forms (see 1.9) and have not been considered hitherto in setting up V units as elements of structure. It is now proposed to take them also into account.

Both /ai/ and /au/ which have been treated as diphthongal articulations in section 1.9 and described in general phonetic terms in sections 1.10-1.12 occur only in stem initial syllables.

eg. vaiki 'became late'

gauniccu 'considered seriously'

The vowel grade of the syllable as well as the syllable initial and final prosodies vary in both cases.

Phonetically and phonologically these are different from a VV sequence resulting from the juxtaposition of a V final syllable and a V initial syllable which can occur in Malayalam, only across word boundaries

---

4. The subscript numerals in such expressions as V_3 indicate the number of terms in the system under discussion.

as in

/paRanna ila/ '(the) leaf which flew' and

/vanna uRakkam/ '(the) sleep which came'.

Although, in the data analysed, there is no possibility of contrast to be accounted for between short and long diphthongs, it may be noted that any syllable for which either of these diphthongs is stated as nucleus is heavy in quantity (3.6.1).

The two diphthongs statable in Malayalam verbal forms can be expressed in phonological formulae as follows:

$$-ai- \quad : \quad -\underset{y}{A}-$$

$$-au- \quad : \quad -\underset{w}{A}-$$

C-UNITS

3.13 The consonant articulations represented in the reading transcription by 27 different symbols and discussed in detail in chapter 1 are grouped under the following five heads for purposes of phonological analysis and description undertaken in this thesis:

1. Plosive
2. Nasal
3. Liquid
4. Fricative
5. Continuant

A word has to be said here about the method employed hereafter, of referring to these systems of C-units in phonological statements and formulae. P, N, L and F are used as convenient mnemonic signs referring to plosive, nasal, liquid and fricative systems and finally the continuant system is denoted by an arbitrarily chosen symbol X.

The particular sub-system involved will be indicated, wherever necessary, by specially designed conjunct symbols. Each of these conjunct symbols consistsof one of the above mentioned upper case letters followed, after a hyphen, by the following lower case letters whose implications are also given below:

1. l labial
2. a apical
3. d dorsal

The resulting conjunct symbols that might prove useful in later sections of this thesis are illustrated below:

P-l	Labial plosive	L-a	Apical liquid
P-a	Apical plosive		
P-d	Dorsal plosive	F-a	Apical fricative
		F-d	Dorsal fricative
N-l	Labial nasal	X-l	Labial continuant
N-a	Apical ~~plosive~~ nasal	X-a	Apical continuant
N-d	Dorsal ~~plosive~~ nasal	X-d	Dorsal continuant

The use of such conjunct symbols in this thesis is, however, reduced to the minimum. Apart from typographical and notational simplicity there is another much more important reason for this: Phonological statements and formulae strive to achieve the maximum possible degree of generalization and in the majority of instances, indication of the particular phonematic unit involved is not relevant to the purpose in hand.

PLOSIVE SYSTEM

3.14.0 A maximum of six C-units grouping themselves as labial, apical (including dental, alveolar and retroflex) and dorsal (including palatal and velar) constitutes the plosive system. This is one of the two most extensive systems of C-units in the language, the other one being the nasal system, and has, like the nasal system, the widest range in the

places of articulation.[4]

The P system is typically non-final in Malayalam.

3.14.1 The P systems operative word initially in native and marginal forms can be represented as P_4. See Table 3.5.

	Native forms	Marginal forms			
	CV-	$\not{p}_{CV(C)}$-	$b\not{h}_{C\breve{V}(C)}$-	$bh_{C\breve{V}}$ -	
Labial	potti	bandhiccu	paticcu	phaliccu	bhariccu
Apical	tatti	dahiccu	tarkkiccu	——	dhariccu
Dorsal (Palatal)	cetti	jayiccu	coodiccu	cheediccu	——
Dorsal (Velar)	kotti	gaŋiccu	koopiccu	kheediccu	ghooʂiccu

TABLE 3.5

The P systems stated initially for native and marginal forms are represented and illustrated alike; the places of articulation involved are also the same in both cases. But it has to be stressed that these two systems are not identical. Note that the h or $\not{h}$ prosodies (3.8.2) as well as b or $\not{p}$ prosodies (3.8.3) are functional only in regard to marginal syllables for which a P system is stated whereas they are not functional as regards native syllables for which a P system is statable.

PP SYSTEM - NATIVE

3.14.2 The PP system operative medially in native verbal forms consists of

4. This is not to forget the fact that "seldom are two systems (in Firth's sense) identical" (Palmer 1968 p.7). See that in 0.7.4 it has already been pointed out that systemic differences in regard to constituent terms may be numerical or exponential. No doubt a six term plosive system is different from a six term nasal system.

six terms, this being the maximum choice of terms in a system, for the terms of which plosive articulations are to be stated.

— $\underline{PP}_6$ —

Labial		kappi
Apical	Dental	katti
	Alveolar	paRRi
	Retroflex	ta ʈʈ i
Dorsal	Palatal	picci
	Dorsal	kakki

The functional difference between $\underline{PP}$ and P^g will be discussed in detail later (4.7) where it will be shown that forms for which P^g is stated are phonologically and grammatically related to those for which $P^{\not g}$ is statable. It is, however, worthy of mention here that for none of the examples cited above a P^g is to be stated.

$\underline{PP}$ SYSTEM - MARGINAL

3.14.3 Long plosive and affricate articulations occurring medially in marginal verb stems are very few and can be represented as /tt, kk/ and /cc/. All the instances illustrating the occurrence of these involve a junction between pre-radical and radical elements. But as details of junction between marginal elements of structure are outside the scope of the present thesis, it is proposed to handle the consonant articulations in question as terms in a marginal $-\underline{PP}-$ system and not as terms in a $-\underline{P + P}$ system. (See also 3.17.2).

— $\underline{PP}_3$ —

Apical		pa ʃ caattapiccu	<	pa ʃ caat + tapiccu
Dorsal	Palatal	uccariccu	<	ut + cariccu
	Velar	dhikkariccu	<	dhik + kariccu

NASAL SYSTEM

3.15.0 A maximum of six C-units that can be assigned to three groups called labial, apical (including dental, alveolar and retroflex) and dorsal (including palatal and velar) constitutes the nasal system (3.17.1). But there are various kinds of restriction on nasal systems operative in different places of structure. They are the subject matter of the following paragraphs.

3.15.1 Initial nasal systems

A.		NATIVE N_3—	
	eg.	Labial	maaRi
		Apical	naaRi
		Dorsal	ɲekki
B.		MARGINAL N_2—	
	eg.	Labial	madiccu
		Apical	nayiccu

Medial nasal systems

3.15.2 — N_3— both in native and marginal forms.

	Native examples	Marginal examples
Labial	cumaccu	hoomiccu
Apical non-retro.	anatti	maaniccu
Apical retro.	maɳattu	guɳiccu

Final nasal systems

3.15.3 —N_2 both in native and marginal forms.

	Native examples	Marginal examples
Labial	varum	udikkum
Apical	varaan	udikkaan

DIFFERENT TYPES OF -NN- AND -NP- SYSTEM

3.16.0 Prior to setting up -NN- and -NP- systems in both native and marginal verbal forms it is important to note that all phonetically long nasal articulations in the data are not analysed phonologically in the same way. Similarly all nasal plus homorganic plosive clusters in native verbal forms also are not subject to the same phonological treatment. This differential treatment is intended to bring to light some important functional differences between the forms under examination.

NATIVE -NN- versus NATIVE -NP- lax-

3.16.1 Compare for instance, the functional difference between the following two intransitive verb stems both of which are phonetically long nasal final in present day Malayalam: /poŋŋ-/ 'to rise', /maŋŋ-/ 'to fade'. Grammatically and phonologically related to and derivable from /poŋŋ-/ there are the transitive forms of the verb and verbal noun forms such as /pokki/ 'raised' and /pokkam/ 'height'. In contrast with this there are no such comparable forms corresponding to /maŋŋ-/. It has, therefore, been found useful to differentiate these two types of form containing long nasals by stating that the former is an -NP-lax-form related to a -P^{g}- form (see 4.7) whereas the latter is an -NN- form which is related to no -P^{g}- form.

The consonant articulations abstracted as -NP-lax- and those abstracted as -NN- are both characterized by voice and nasality throughout them.

Table 3.6 provides some more examples illustrating the functional difference between -NP-lax forms and -NN- forms. The -P^{g}- forms corresponding to the -NP-lax forms cited are also given.

—NN - forms intr. p.F.Vb.	—NP-lax - forms intr. p.F.Vb	—P^g - forms tr. p.F.Vb
moo ŋŋ i	tuu ŋŋ i	tuukki
cennu	tiirnnu	tiirttu
paa ɲɲ u	tee ɲɲ u	teeccu

TABLE 3.6

NATIVE - NP-lax - versus NATIVE -NP-tense -

3.16.2 As opposed to such native - NP-lax - forms there are a few native - NP-tense - forms in the language which are characterized by voice throughout the consonant articulation in question and by the cutting off of nasality at the shutting phase of the plosive. Related to and derivable from an - NP-tense - form also there are - P^g - forms.

- NP-tense -	>	- P^g -
intr. p.F.Vb		tr.p.F.Vb
kuumpi	>	kuuppi

NATIVE - N+P-tense - FORMS

3.16.3 It must be noted at this point that in the language there are certain - N+P-tense - forms from which phonologically and grammatically related - P^g - forms are derivable.

eg. - N+P-tense -	>	- P^g -
non-causative past finite Vb.		Causative p.F.Vb
ka ŋʈ u	>	kaa ʈʈ i

/ka ŋʈ u/ is generalized as an - N+P-tense - form since the homorganic nasal + plosive cluster involves the junction between a nasal final stem and a plosive

initial suffix.

Difference between Native - NP-tense - or

Native - N+P-tense - Forms and Native - NP - forms:-

3.16.4 Now, in contrast with the native - NP-tense - forms like /kuumpi/ 'folded' and native - N+P-tense - forms like /kaɳʈu/ 'saw' there are forms like /caampʲ/ 'pumped' and /tooɳʈi/ 'dug' in which the articulations under discussion are phonetically similar to those in the former forms. Functionally, however, these two sets of forms are quite different from each other. Phonologically and grammatically related to and derivable from forms like /caampi/ and /tooɳʈi/ there are no - P^g - forms. Forms like these are, therefore, distinguished as just - NP - forms without the qualification 'tense'.

It will be recalled here (see 3.16.2-3) that forms like /kuumpi/ and /kaɳʈu/ are treated as native - N(+)P-tense - forms since they are relatable to corresponding - P^g - forms like /kuuppi/ and /kaaʈʈi/.

3.16.5 The following are the advantages of such an analysis over one which does not distinguish between terms of an - NN - system and an - NP-lax- system as well as between terms of an - NP-tense - system and an - NP - system:

Firstly, the present analysis satisfies the condition of congruence among the phonetic, phonological and grammatical levels of analysis to a greater degree.

Secondly, having set up an - NP-lax - form and an - NP-tense - form one can easily derive - P^g - forms that are grammatically related to them (cf. intransitive - transitive, non-causative - causative and finite verb - verbal noun relations) without having to formulate rules involving a total change from one phonematic system (Nasal) to another (Plosive).

Thirdly, this is in conformity with the findings of historical and comparative studies which do recognize an intermediary - NP - form between an - NN - form and a - P^g - form corresponding to it, as shown below:

*poŋŋ- > *poŋk- > pokk-

MARGINAL - NP- tense - FORMS AND

MARGINAL - NP-lax - FORMS

3.16.6 Among marginal - NP - forms also it is profitable to distinguish - NP-tense - forms like /cinticcu/ 'considered' from - NP-lax - forms such as /vandiccu/ 'saluted! Discussion of this point is postponed to section 3.17.6.

3.17.0 Different types of - NN - and - NP - systems in both native and marginal forms are set up in this section, in view of the above discussion.

NATIVE - NN - SYSTEM

3.17.1 The - NN - system operative medially in native verbal forms comprises six terms. This is the maximum choice of terms available in any system for the terms of which nasal articulations are stated. The examples shown below are arranged so as to bring out some important restrictions on the occurrence of short or long vowels immediately before long nasal articulations.

— NN$_6$ —

		After short vowel	After long vowel
Labial		tummi	-
Apical	Dental	-	toonni
	Alveolar	tenni	-
	Retroflex	eŋŋi	-
Dorsal	Palatal	piɲɲi	-
	velar	maŋŋi	vaaŋŋi

MARGINAL - NN - SYSTEM

3.17.2 The - NN - system stated medially in marginal verbal forms consists of only two terms.

— NN_2 —

Labial	sammaaniccu
Apical	bhinniccu

In /sammaaniccu/, strictly speaking, only an - N+N - is statable, since it involves the junction of a pre-radical element with a radical. The reason for preferring the present statement is the same as that given for stating - PP - rather than - P+P - in 3.14.3.

NATIVE - NP - SYSTEM

3.17.3 The - NP - system operative medially in native verbal forms consists of five terms.

— NP_5 —

Labial		caampi
Apical	Dental	cinti
	Retroflex	toonʈi
Dorsal	Palatal	koɲci
	Velar	toŋki

It will be recalled here that phonetically these are characterized by the continuity of voice throughout the articulation in question and by the cutting off of nasality at the shutting phase of the plosive. These do not have any alternants in which the nasality continues throughout the consonant cluster under discussion.

NATIVE - NP-tense - SYSTEM

3.17.4 Native - NP-tense - system is stated as a two term one although instances like /kaŋʈu/, in fact, are statable as - N+P-tense - forms (see

3.16.3). It may be noted that the articulations involved are phonetically not different from those in native - NP - forms cited above.

— NP_2 -tense —

Labial		kuumpi
Apical	- Retroflex	kaɳʈu

See sections 3.16.2-3 for the basis on which such forms are handled as native - NP-tense.

NATIVE - NP-lax - SYSTEM

3.17.5 Native - NP-lax - system is stated as a three term one. For the phonetic implications of the - CC - units involved and the functional difference of this system from native - NP-tense - system and native - NN - system, see 3.16.1-2.

— NP_3-lax —

Apical	-	Dental	tinnu
Dorsal		Palatal	maaɲɲu
		Velar	poŋŋi

MARGINAL - NP - SYSTEMS

3.17.6 Marginal medial clusters that are represented in the orthography and the reading transcription as consisting of a nasal which is followed either

(1) by a homorganic voiceless plosive or affricate (/nt, ɲ c/)

or (2) by a homorganic voiced plosive or affricate (/nd, ɲ j/)

have been discussed in section 1.33.2. There it was pointed out that they are usually pronounced by Malayalis as (1) nasal plus homorganic voiced plosive or affricate (/nd, ɲ j/) and (2) long nasals (/nn, ɲɲ/) respectively.

It is proposed to handle this situation by stating two types of marginal - NP - system, ~~namely marginal — NP-tense — system and marginal —~~

~~NP — system~~, namely marginal - NP-tense - system and marginal - NP-lax - system. The former is a four term system whereas the latter a five term one. It is also worthy of mention that instances marked by the sign @ are, strictly speaking, - N+P - forms involving junction between pre-radical and radical elements (3.14.3).

		— NP_4-tense —	— NP_5-lax —
Labial		sampaadiccu@	sambandhiccu@
Apical	Dental	cinticcu	vandiccu
	Retroflex		khaɳɖiccu
Dorsal	Palatal	saɲcariccu@	vyaɲjiccu
	Velar	aŋkuriccu	prasaŋgiccu

LIQUID SYSTEM

3.18.0 The two lateral articulations /l/ and /ɭ/ and the two flapped ones /r/ and /R/ are best grouped under the heading 'liquid' for purposes of phonological analysis. The usefulness of this treatment in simplifying and systematizing phonological statements will be amply exemplified on many occasions later in this thesis. See, in particular, the phonological treatment of the contrast between causative and non-causative forms and the setting up of different subclasses of verb stems during the discussion of past tense forms of verbs.(Sections 7.2; 7.6).

Viewing the liquid system as comprising two sub-systems, namely flapped and lateral is also useful. See the phonological treatment of the contrast between transitive and intransitive verbal forms where flapped final stems are shown to be best handled differently from lateral final ones (7.1.3; 7.1.6).

INTERVOCALIC L-SYSTEMS

(A) NATIVE

3.18.1 The maximum choice of terms in the liquid system is available in native verbal forms intervocalically:-L_4-

Flapped	Denti-alveolar; palatalized	kuraccu
	Alveolar; non-palatalized	kuRaccu
Lateral	Alveolar	valaccu
	Retroflex	va ɭ accu

Of the two subsystems namely 'flapped' and 'lateral' constituting the liquid system, each comprises two terms only in regard to native forms as shown above.

(B) MARGINAL

3.18.2 As regards intervocalic position in marginal forms the flapped subsystem comprises only one term wheras the lateral subsystem consists usually of two terms.

— L_3 —

eg.	Flapped		variccu
	Lateral	Alveolar	caliccu
		Retroflex	mee ɭ iccu[5]

INITIAL L-SYSTEM - MARGINAL

3.18.3. As far as native forms are concerned the liquid system is essentially non-initial (see 1.25 and 1.26). The initial flapped and lateral subsystems

---

5. Although /l/ and /ɭ/ freely vary in many structural places in Sanskrit, they are to be distinguished in many Malayalam forms of Sanskritic origin, like these two instances.

operating in marginal forms consist each of one term only, making the L-system in question a two-term one.

L_2 ——

eg. Flapped: rak ʂ iccu

Lateral: laa ɭ iccu

FINAL L-SYSTEMS

3.18.4 Word finally, in both native and marginal verbal forms in present day colloquial Malayalam only a one-term lateral subsystem operates.

—— L_1

	Native	Marginal
Lateral:	vannaal	variccaal

LIQUIDS IN MEDIAL CLUSTERS

3.18.5 The following are the restrictions on the number of terms of the liquid system operative in medial heterorganic clusters:

(A) NATIVE SYSTEM

— L_3 C —

		Before /p/	Before /k/
Flapped:		tirrppiccu	tiirkkum
Lateral:	(Alveolar:	eelppiccu	eelkkum
	(Retroflex:	kee ɭ ppiccu	kee ɭ kkum

(B) MARGINAL SYSTEMS

— L_2 C —

	Before /p/
Flapped:	samarppiccu
Lateral:	kalppiccu

— L_1 C —

	Before /k/
Flapped:	tarkkiccu

FRICATIVE SYSTEM

3.19.0 The fricative system in the language is typically marginal in spite of the very rare occurrence of a few native forms involving fricative articulations (see 1.26).

As the short voiceless velar fricative articulation represented by /h/ in reading transcription and occurring mostly in marginal forms has been accounted for in terms of h and ɦ prosodies (3.8.2), only a maximum of three C-units distinguished from each other as apical non-retroflex, apical retroflex and dorsal is stated as constituting the fricative system.

3.19.1 The maximum choice of terms in this system is available in marginal forms intervocalically.

— F_3 —

Apical non-retroflex : rasiccu

Apical retroflex : du ʂiccu

Dorsal : aa ʃiccu

Initially, even in marginal forms this system is limited to F_2 —

Apical : sahiccu

Dorsal : ʃayiccu

Further restrictions on the fricative system operative in medial and non-final marginal clusters can be deduced easily from Table 1.6 and are, therefore, not detailed here.

CONTINUANT SYSTEM

3.20 Three continuant articulations distinguished as labio-dental, retroflex and palatal and symbolized in reading transcription as /v, ɽ / and /y/ respectively have been discussed in section 1.27. Of these, the word initial occurrences of both /v/ and /y/ have already been stated in prosodic terms (see 3.8.4).

There are, however, occurrences of /v/ and /y/ in some other structural places where they commute as members of a three-term system of C-units comprising also the retroflex continuant. For such places, therefore, a three-term continuant system is set up. A maximum of three C-units distinguished from each other as labial, apical and dorsal constitutes this continuant system. It is the intervocalic position within native stems which is characterized by the maximum choice of terms in this system :

— X_3 —

Labial : kavi ɲɲu

Apical : ku ɽ i ɲɲu

Dorsal : kayarttu

The corresponding marginal system is limited to —X_2—

Labial : bhaaviccu

Dorsal : ʃayiccu

4. STEM STRUCTURES

CHAPTER 4

STEM STRUCTURES

4.0 It is proposed, in this chapter, to set up generalized stem structures needed to handle the verbal forms in Malayalam and also to show the grades of vowel and quantity patterns statable for the stem syllables.

4.1 It has already been pointed out that stem is a morphological abstraction made for all verbal forms discussed in this thesis and that such an abstraction is phonologically justifiable (2.6).

NATIVE versus MARGINAL

4.2 Any description which aims to be clear and handle the stem structures in the verbal forms of colloquial Malayalam has to recognize two different types of stem, namely 'native' and 'marginal'. Native stems are those for which cognates are recognizable in other Dravidian languages, notably Tamil, whereas marginal stems are pan-Indian as regards their currency, having corresponding forms in the Indo-Aryan languages as well. To handle the structure of the great majority of the marginal stems, the phonologist will have to set up systems of prosodic and/or phonematic units which are different from those required to be set up for handling the native stems. An examination of 1,017 verbal forms commonly used in colloquial Malayalam has revealed the following proportion between native and marginal stems:- 1.7 : 1

4.3 Two other criteria by which the stem structures can be identified

are:

(i) the number of constituent syllables in the stem

(ii) the open versus closed nature of the stem-final syllable.

SIMPLE versus COMPLEX STEMS

4.4 Before entering into a classification of verb stems based on the number of constituent syllables in each stem, it has to be noted that verb stems in Malayalam may be either 'simple' or 'complex'. Simple stems are those which are morphologically unanalysable into simpler constituents. That is to say, each of such verb stems consists wholly of a single verbal root.

eg.	uut-	'to blow'
	ciri-	'to laugh'
	alas-	'to abort'

COMPLEXITY OF VERB STEMS

4.5.0 Complexity of verb stems may be of different types:

4.5.1 (i) Many of the very common native verbal forms consist of a verbal root with a preposed noun or verbal noun.

(a) Noun + Verbal root

eg. aka-ppe⌊- 'interior-to be in: to be in something'
puRa-ppe⌊- 'exterior-to be in: to start'

(b) Verbal noun + Verbal root

eg. kolla-ppe⌊ - 'killing - to be in: to be killed'[1]
prayoojana-ppe⌊ - 'use - to be in: to be useful'

---

1. In chapter 2 no grammatical category of passivity has been stated. It is worthy of mention that such constructions in which a verbal noun derived from a transitive verb stem is followed by /pe⌊ -/ meaning 'to be (involved) in' are usually employed in Malayalam for translating expressions in passive voice available in Sanskrit and English.

Such noun/verbal noun plus verbal root constructions are too numerous to be exhaustively listed here and since an analysis of these forms would necessarily involve a detailed study of the nominal forms also, these have not been discussed in this thesis.

4.5.2 (ii) Most of the marginal verb stems occurring in colloquial Malayalam are complex in the sense that each of them comprises more morphological elements than a verbal root. Thus the marginal stems /jayi-/ 'to win', /duṣi-/ 'to be polluted' etc. contain, in each case, apart from the verbal root (/jay-, duṣ-/) a formative suffix /-i-/ also. There are, perhaps, only three verb stems, /alas-, vilas-/ and /bhaya-/ 'to abort', 'to shine' and 'to fear', which do not contain this suffix.

4.5.3 (iii) A few native verb stems also contain a similar suffix that can be transcribed as /-i/ : /cemp-i-, kall-i-/ 'to be copper-coloured, to harden like a stone'. It may be noted that these are obviously related to and easily derivable from the corresponding nominal roots /cempə / 'copper' and /kallə / 'stone', which are of common occurrence in the language. This verbalizing suffix is also treated as part of the verb stem.

4.5.4 (iv) From the point of view of morphological segmentation (Nida 1956 pp.58-'9) a good many marginal verb stems having more than two syllables can be found to contain a prefix before the verbal root. Thus a number of marginal verbal roots occur with or without prefixes in colloquial Malayalam.

cf. sam - bandh-i-ccu 'participated'

bandh-i-ccu 'tied'

Similarly, the occurrence of more than one prefix before a given verbal root and more than one verbal root after a given prefix is also quite common.

cf.	upa - yoogiccu	'used'
	pra - yoogiccu	'employed'
	ni - yoogiccu	'ordered'
	ni - grahiccu	'killed'
	ni - yantriccu	'controlled'

4.5.5 Because of all these, the specification of the number of syllables in a polysyllabic verb stem makes sense only if it is accompanied by the indication of whether or not the stem is complex and if complex, wherein lies the complexity. Table 4.1 sets forth the different types of stem in Malayalam on the basis of the number of constituent syllables. The number of syllables in the prefix or preposed element, in the verbal root, in the formative or verbalizing suffix and the total number of syllables in the verb stem are given in columns first, second, third and fourth respectively against examples listed in the fifth column.

The native verb stems have from one to four syllables, while the marginal ones have the number of constituent syllables ranging from two to seven.

4.5.6 Table 4.2 given an idea of approximately how many stems are there in each class set up on the basis of the number of constituent syllables. It can be noted that among the verb stems in Malayalam, the disyllables are most numerous. Next come, in descending order, monosyllables trisyllables and quadrisyllables. All monosyllabic verb stems in colloquial Malayalam are native and almost all verb stems having more than three syllables are marginal. Among the 383 disyllabic native stems, 8 stems such as /onn-i-, cemp-i-/ 'to be united', 'to be copper-coloured' have the verbalizing suffix /-i-/ within them.

No. of syllables in Prefix	Root	Formative/verbalizing S.	Vb.St.	Examples
				NATIVE STEMS
0	1	0	1	uut-
0	2	0	2	akal-
0	3	0	3	ampara-
0	2	1	3	pantal-i-
0	3	1	4	karuvaa] -i-
				MARGINAL STEMS
0	1	1	2	ud-i-
0	2	0	2	alas-, vilas-
0	2	1	3	kalah-i-, cikits-i-
1	1	1	3	aa-car-i-
2	1	1	4	upa-car-i-
3	1	1	5	upa-sam-har-i-
4	1	1	6	niraayudhii-kar-i-
5	1	1	7	vyavasaayavat-kar-i-

TABLE 4.1

Number of syllables	Number of Verb stems		
	Native	Marginal	Total
1	233	0	233
2	383	163	546
3	17	136	153
4	4	76	80
5	0	3	3
6	0	1	1
7	0	1	1
Grand total	637	380	1017

TABLE 4.2

Of the 17 trisyllabic native stems /ampara-/ 'to wonder', /puɲ ciri/ 'to smile', /perumaaR-/ 'to behave' and /viɭ ayaaʈ-/ 'to play' are without this /-i-/. Among these four, only /ampara-/ seem to be morphologically unsegmentable. Two of the four quadrisyllabic native stems contain the verbalizing /-i-/ mentioned above: /karuvaaɭ-i-/ 'to become black', /viRaŋŋal-i-/ 'to be benumbered'. The other two /piRupiRu-/ and /muRumuRu-/ both meaning 'to grumble' are clearly reduplicative and onomatopoeic. Almost all marginal stems have the formative suffix /-i-/ immediately following the verbal root. eg. /ud-i-/ The stem in /kruuʃi-ccu/ 'crucified' (cf. Latin Cruz 'cross') is, perhaps, the only instance in Malayalam of the borrowing of a verb stem from a non-Indo Aryan source.

C FINAL versus NON-C FINAL STEMS

4.6.0 Based upon the second criterion mentioned above (4.3) for classification of verb stems, namely the open versus closed nature of the stem final syllable one can recognize 'C final stems' and 'Non-C final stems'[2] in Malayalam. It will be noted that almost all marginal verb stems are non-C final,[3] while among the native stems there are both C finals and non-C finals.

CONSTANT C FINAL versus CONSTANT CC FINAL STEMS

4.6.1 Some C final stems have only simple C and some others only CC throughout the formal scatter. Accordingly, these are differentiated as 'Constant C final stems' and 'Constant CC final stems', symbolically distinguished, wherever needed, as C' and CC' respectively.

Bearing in mind that this study is intended to bring out as much congruence as possible, between the two major analytical levels, namely,

---

2. This includes V-finals such as /ari-/ 'to cut' and ə -finals like /jiivi-/ 'to live'.

3. See two exceptions mentioned in 4.5.2 : /alas-, vilas-/.

phonology and grammar, it has also been found profitable to point out, at the outset, the possibility of sub-classifying the C final stems on the basis of certain saliant features of the past suffix they take.

VARIABLE-C FINAL STEMS

4.6.2 A third variety of C final stems exhibit, in their formal scatter, different types of alternation of forms ending in C or CC or V and, therefore, they are recognized as variable-C final stems (symbol : C_z)

CC' versus C^g and C' versus $C^{\not g}$

4.7 One important point to be mentioned in this connection is that, of the different alternants of a C_z final stem some CC final[4] ones are treated phonologically as C^g final since they are grammatically related to corresponding forms which are statable as $C^{\not g}$ final. See for instance, the transitive future form /pookkum/ 'will make go' in which the stem can be generalized as $C\bar{V}C^g$- since this form is grammatically and phonologically relatable to the corresponding intransitive future form /pookum/ 'will go' where the stem is generalized as $C\bar{V}C^{\not g}$ -. Phonetically there may not be any difference between the stem-final consonantal articulations in /pookk-um/ and /n̲ookk-um/ 'will look'. But functionally there is considerable difference between them: /n̲ookkum/ is the transitive future form of a verb for which there is no corresponding intransitive form, whereas /pookkum/ the transitive future form of a verb in the language is grammatically related to and derivable from /pookum/ which is the corresponding intransitive future form of the same verb. To bring out such and many other inter-

---

4. The adjacent C-s are underlined to show that the C unit to be stated for both is the same. In some other places such underlining would indicate that the consonant cluster stated at that structural place is a homorganic non-identical element one (1.33) like /n̲t̲/.

relations and differences between grammatical forms in Malayalam, forms like /nookk-, pookk-/ and /pook-/ are distinguished as CC final, C^{g} final and $C^{\not g}$ final respectively.

From this the functional difference between a $C^{\not g}$ stated finally for forms like /pook-/ and a constant C stated finally for forms like /virak-/ 'to blend' can also be easily deduced: A form which is stated as $C^{\not g}$ final is grammatically relatable to one corresponding form which is stated as C^{g} final (of. /pook/ and /pookk/); but a form stated as C final (eg. /virak/) is not.

BASIS OF CLASSIFICATION OF NON-C FINAL STEMS

4.8 Depending upon the prosodies statable for the stem-final syllable non-C final stems are said to be y-prosodic or w-prosodic.

4.9 The generalized stem structures necessary to handle the verb, together with indication of the different types of stem mentioned above and telling examples are given below. Almost all marginal verb stems are y-prosodic ə final. (A few exceptions to this are listed in 4.5.2 and examples cited in Table 4.1). Past finite verbal forms derived from native stems only are, therefore, cited here. Wherever possible, instances with both monosyllabic and polysyllabic stems are cited.

A. C FINAL STEMS

(i) Those taking the vocalic past suffix

(a) C' FINAL

V̄C-	aaɻ-i
"	uur-i
CV̄C-	kaaR-i
"	vaik-i
VCVC-	utak-i
CVCVC-	karut-i

(b) CC' FINAL

VCC	aɲc-i
"	aɭɭ-i
V̄CC	uuṉṉ-i
CVCC	kakk-i
CV̄CC	koocc-i

(c) C_z FINAL

$\bar{V}C$	aaṯ-i
	uut-i
	uuR-i
$C\bar{V}C$	neeṯ-i
	vaaṯ-i

(ii) Those taking a plosive suffix for the past.

(a) C' FINAL

VC-	iṯ-	>	iṯṯu
CVC-	keṯ-	>	keṯṯu
$C\bar{V}C$-	puuɳ-	>	puuɳṯu
$\bar{V}C$-	oor-ttu		
VCVC-	etir-ttu		

(b) C_z FINAL

$\bar{V}C$	eel-	>	eeRRu
CVC-	vil-	>	viRRu
"	kaɭ-	>	kaṭṭu
$C\bar{V}C$	keeɭ-		keeṭṭu

(iii) Those taking a nasal suffix[5] for the past.

(a) C' FINAL

$\bar{V}C$-	uur-nnu
$C\bar{V}C$-	cuuɽ-nnu
VCVC-	amaɽ-nnu
CVCVC-	takar-nnu

---

5. Further specification of such suffixes as those involving terms in —— NP-lax —— system or —— NN —— system is postponed to chapter 7 (see 3.16.1; 7.6).

(b) C_z FINAL

$\bar{V}C$-	aaɽ-	>	aaɳu
$C\bar{V}C$-	taaɽ-	>	taaɳu
CVC-	tar-	>	tannu
"	tin-	>	tinnu
"	cel-	>	cennu
VCVC-	akal-	>	akannu
CVCVC-	vaɻar-	>	vaɻa(r)nnu

(iv) Those taking a past suffix comprising a nasal plus plosive cluster. All such stems are C_z final.

$C\bar{V}$ ($^{k}/_{v}$) -	no-	>	no-ntu
CVC-	koɻ-	>	koɳʈu
CVCVC-	puraɻ-	>	puraɳʈu

B. NON-C FINAL STEMS

(i) Those taking a nasal past suffix

(a) y- prosodic stems

$\bar{V}$-	aa-	ɲɲ	u
$C\bar{V}$-	cii-	ɲɲ	u
"	tee-	ɲɲ	u
VCV-	ari-	ɲɲ	u
"-	aya-	ɲɲ	u
CVCV-	ceri-	ɲɲ	u

(b) w- prosodic stems

VCV-	ira-	nnu	
CVCV-	para-	nnu	
VCCVCV-	ampara-	nnu	

(ii) Those taking a plosive past suffix

(a) y- prosodic stems

$\bar{V}$-	ee-ccu
CV-	ve-ccu
"	ta-ccu
CVCV-	ciri-ccu
"	viRa-ccu
CVCCVCV-	pantali-ccu
CVCVC$\bar{V}$CV-	karuvaa) i-ccu

(b) w- prosodic stems

V-	o-ttu
C$\bar{V}$-	puu-ttu
"	kaa-ttu
CVCV-	kuru-ttu
"	kana-ttu

VOWEL GRADE IN STEM SYLLABLES

4.10 The following sections enumerate the differences in vowel grade recognizable in the syllables of the various types of verb stem. It has been found that within given structures, a maximum of three grades of openness, namely close, mid and open can be stated for the stem syllables of verbal forms.

A. NATIVE STEMS

1. MONOSYLLABLES

4.11.1 All the three grades, mentioned above, may be recognized in the syllables of native monosyllabic verb stems. Accordingly, a three term system of V units symbolized as V_3 is to be stated for such stems.

Close	kitt-		kutt-
Mid	ketṯ-		kotṯ-
Open		katt-	

2. DISYLLABLES

Initial Syllable

4.11.2

	V_3 ——	
Close	i‡aR-	u‡a-
Mid	e‡u-	kö‡u-
Open	a‡u-	

Final Syllable

A two-term system of V units comprising a close unit and an open (rather, a non-close) unit is set up.

	—— V_2	
Close	a‡i-	a‡u-
Non-close	u‡a-	kana-

Although these two units may also be symbolized as I and A respectively this does not, however, presuppose that these are identical with the units symbolized in the same way in a three-term system, for example, the one set up just now for the initial stem syllable in disyllabic native stems.

3. TRISYLLABLES

Initial Syllable

4.11.3

	V_3 ——	
Close	niɽali-	mura‡i-
Mid	——	orumi-
Open	maravi-	

Medial Syllable

	—— V_2 ——	
Close	koppi⌋i-	orumi-
Non-close[6]	oomani-	

6. The verb stem /taalooli-/ 'to caress' in the medial syllable of which a mid back vowel articulation occurs is, obviously, an exception and has not been taken into account in stating the system of V units at this structural place as ——V_2 ——.

Final Syllable

For the final syllable of the great majority of trisyllabic native stems, only a ə unit need be stated. The phonetic exponent of this ə will be a vowel in the close front region, in almost all cases (see examples cited above under the headings Initial Syllable and Medial Syllable). /ampara-/ 'to wonder' is, perhaps, the only exception. Here it is a vowel in the mid central region. Although /perumaar-/ 'to behave' and /viɻayaaɻ -/ 'to play' would seem to be further exceptions to the statement made a while ago, it may be noted that both these are obviously complex from a morphological point of view and are to be treated separately from simple trisyllabic stems.

4. QUADRISYLLABLES

4.11.4 Of the four quadrisyllabic native stems, the two that are onomatopoeic and reduplicative, /piRupiRu-, muRumuRu-/ both meaning 'to grumble' exhibit only a repetition of the pattern of vowel grade stated for the disyllables. The other two /karuvaaɻi-/ 'to become black' and /viRaŋŋali-/ 'to be benumbed' are morphologically different from each other, the former being probably derived from a nominal root (cf./karuvaɻala/ 'name of a poisonous snake') and the latter from a verbal root (cf. /viRa-/ 'to shiver'). No attempt has, therefore, been made to set up separate systems of vowel grade in the stem-syllables of quadrisyllabic stems.

B. MARGINAL STEMS

1. DISYLLABLES

Initial Syllable [7]

4.12.1

	V_3 —
Close	jiivi- gunɻi-
Mid	mee i- koopi-
Open	maani-

7. /jrəmbhi-/ 'to expand' is a verb stem of rare occurrence. The vowel in the stem initial syllable is retroflexed. But this has not been taken

Continued on following page

Final Syllable

A unit is stated, of which the phonetic exponent as regards all instances other than in /bhaya-/'to fear'will be a close front vowel. (See the examples cited above under the heading 'Initial Syllable'). In /bhaya-/ it has to be specified as a mid central vowel.

2. TRISYLLABLES

4.12.2 Most trisyllabic marginal stems have verbal roots preceded by monosyllabic prefixes. eg. /pravahi-/ 'to flow'. But there are a few without such prefixes. eg. /kalahi-/ 'to quarrel'. The word-initial syllable in /pra-vahiccu/ 'followed' is prefix syllable, whereas that in /kalahiccu/ 'quarrelled' is stem-initial. These two syllables are, therefore, not comparable and ~~in~~ any phonological analysis which is polysystemic has to take account of this fact. To this end, the following statement of vowel grade in trisyllabic marginal stems proposes to handle these two types of stem separately.

(A) Trisyllabic marginal stems containing no prefix:

Initial Syllable[8]

	V_3 —	
Close	cikitsi-	upami-
Mid	veedani-	———
Open	astami-	

Footnote 7 continued from previous page:

into account in setting up the system of V units at this structural place. Same is the case with /ʃrəmgari-/ 'to court' which has not been specially handled in 4.12.2 where the stem initial syllable in trisyllabic marginal stems containing no prefix is discussed.

8. See footnote 7 to 4.12.1.

Medial Syllable

	— V_2 —	
Close	cikitsi-	aŋ kuri-
Non-close	astami-	

Final Syllable

A ə unit for which the phonetic exponent is a close front vowel is stated. (Examples cited above).

(B) Trisyllabic marginal stems containing monosyllabic prefixes:

It would be an advantage to note, at the outset, that in many instances, such stems contain elements which have already been handled earlier in connection with the discussion of disyllabic marginal stems. Thus, for example, the statement of vowel grade, made in regard to the verb stem /vahi-/ will be applicable, to a large extent, to that portion of the verb stem /pra-vahi-/, which follows the prefix /pra-/. It would, therefore, be logical and convenient to start stating the vowel grade in such trisyllabic stems from their final, i.e., third syllable and proceed through their penultimate syllable (which is, in fact, the radical syllable) to the prefix syllable (with which the word starts).

Stem final syllable

A ə unit, of which the phonetic exponent is a close front vowel is stated. Note that this is in conformity with the treatment of the final syllables of most marginal and some native stems.

Penultimate (i.e. Radical) syllable

			— V_3 —
Close	niriik ʂ i-		———
Mid	pravee ʃ i-		aaghoo ʂ i-
Open		(pravahi- (vicaari-	

Prefix (i.e. Word initial) syllable

	— V_2 —
Close	vivari- uccari-
Non-close	(anveeʂi- (aagrahi-

3. QUADRISYLLABLES

4.12.3 In all quadrisyllabic verb stems a disyllabic prefix (cf. /anu-smari-/ 'to remember') or two monosyllabic prefixes (cf. /sam-aa-hari-/ 'to compile') or a preposed element which is also disyllabic (cf. /laghuu-kari-/ 'to simplify') precedes the verbal root. The statement of vowel grade in the syllables of such stems also is found to be best begun from the stem-final syllable.

Stem final syllable

A ə unit of which the phonetic exponent is a close front vowel is stated as in the case of most marginal stems assigned to other types.

Penultimate (i.e., Radical) syllable

		— V_3 —
Close	(pratibimbi-	-
	(upajiivi-	anukuuli-
Mid	upadeeʃi-	anumoodi-
Open	(anuvadi-	
	(anumaani-	

Prefix syllables

For the sake of convenience in reference, the two possible syllables of the prefixed elements in quadrisyllabic marginal verb stems are distinguished as pre-radical and stem-initial. As the prefixed elements in such cases will always be disyllabic, the pre-radical syllable will be

the second in the word, counting from the left.

Pre-radical syllable

	— V_2 —	
Close	(pratikuuli-	anukuuli-
	(aa ∫ iirvadi-	laghuukari-
Non-close	(avatari-	
	(samaahari-	

Stem-initial syllable

	— V_2 —	
Close	niraakari-	upakari-
Non-close	anukari-	

4. MARGINAL STEMS CONTAINING MORE THAN FOUR SYLLABLES

4.12.4 There are only two or three instances of marginal verb stems containing more than four syllables. Even in those stems (cf. /upasamhari-/ 'to conclude', /niraayudhiikari-/ 'to disarm', /vyavasaayavatkari-/ 'to industrialize') the verbal roots are always disyllabic and the radical and post-radical syllables exhibit only the pattern of vowel grade stated for disyllabic marginal stems. No separate statement of vowel grade in regard to the syllables of such stems is, therefore, attempted here.

QUANTITY PATTERNS IN STEM SYLLABLES

4.13 It will be recollected that in section 3.6 two types of quantity, namely heavy and light, have been stated for the syllables of verbal forms under analysis. It is proposed, in the following sections, to state the pattern of syllable quantity in stem syllables from that point of view.

CONSTANT versus VARIABLE QUANTITY

4.14 An examination of the formal scatter of verb stems in Malayalam

shows, in regard to syllable quantity, two types of stem: (1) those in which the quantity is the same throughout the scatter and (2) those in which it varies. Stems of constant quantity are far more numerous than those of variable patterns. Forms such as /kaɳʈu : kaaɳunnu, cattu : caavunnu, uɳʈu : uɳɳunnu/ (past and present finite forms of verbs meaning 'to see', 'to die' and 'to eat' respectively) seem to bear very clear testimony to the importance and invariability of quantity of stem syllables in Malayalam verbal forms. For the sake of convenience and clarity, native stems are discussed first and marginal stems next.

4.15.0 As regards quantity patterns in stem syllables, the non-causative future and past finite forms and causative past finite forms of both intransitive and transitive verbs are representative of other forms in the scatter. Only these forms are, therefore, cited in each case. Quantity patterns available in verbal noun forms which deserve special attention in many respects are discussed in a later section (7.22.6).

I MONOSYLLABIC STEMS

4.15.1 (A) Table 4.3 lists verbal forms with monosyllabic stems which are invariably heavy in syllable quantity.

4.15.2 (B) Monosyllabic stems of variable syllable quantity. Examples of verbal forms containing such stems are listed in Table 4.4.

II DISYLLABIC NATIVE STEMS

4.15.3 (A) Verbal forms with disyllabic stems that are of invariable ~~heavy~~ syllable quantity are illustrated in Table 4.5.

4.15.4 (B) Disyllabic stems of variable syllable quantity. Examples of verbal forms containing such stems are listed in Table 4.6.

CANONICAL FORM OF Vb.St.	QUANTITY PATTERN OF St.Syl.	NON-CA FUTURE	NON-CA PAST	CAUSATIVE PAST
V-	H	okkum	ottu	oppiccu
CV-	H	taykkum	tayccu	tayppiccu
VC-	H	uṉṉum	uṉṯu	uuṯṯi
VCC-	H	ettum	etti	etticcu
CVC-	H	koyyum	koytu	koyyiccu
CVCC-	H	kappum	kappi	kappiccu
V̄-	H	eekkum	eeccu	-
V̄C-	H	aaRum	aaRi	aaRiccu
V̄CC-	H	ooṉṉum	ooṉṉi	ooṉṉiccu
CV̄C-	H	kiiRum	kiiRi	kiiRiccu
CCV̄C-	H	praakum	praaki	praakiccu
CCV̄CC-	H	praaṉcum	praaṉci	praaṉciccu
CV̄CC-	H	caampum	caampi	caampiccu

TABLE 4.3

CANONICAL FORM OF Vb.St.	Non-Ca future		Non-Ca past		Ca. past	
	Phonetic form	q.p. of St.Syl.	Phonetic form	q.p. of St.Syl.	Phonetic form	q.p. of St.Syl.
VC-	iṯum	L	iṯṯu	H	iṯiiccu	L
"	aRum	L	aRRu	H	-	-
CVC-	peRum	L	peRRu	H	peRiiccu	L
"	tarum	L	tannu	H	tariiccu	L
"	keṯum	L	keṯṯu	H	keṯiiccu	L

TABLE 4.4

CANONICAL FORM OF Vb.St.	q.p. of St.Syls.	NON-CA FUTURE	NON-CA PAST	CAUSATIVE PAST
VCV-	LH	aṭikkum	aṭiccu	aṭippiccu
CVCV-	"	kaṭikkum	kaṭiccu	kaṭippiccu
CVCVC-	"	timirkkum	timirttu	timirppiccu
VCVCC-	"	anattum	anatti	anatticcu
CVCVCC-	"	tirummum	tirummi	tirummiccu
VCVC-	LL	amaRum	amaRi	amaRiccu
CVCVC-	"	pataRum	pataRi	pataRiccu
VCCV-	HH	onnikkum	onniccu	onnippiccu
CVCCV-	"	kallikkum	kalliccu	kallippiccu
C̄VCV-	"	vaayikkum	vaayiccu	vaayippiccu
C̄VCC̄VC-	"	caaɲcaaṭum	caaɲcaaṭi	caaɲcaaṭiccu

TABLE 4.5

CANONICAL FORM OF Vb.St.	Non-Ca.future		Non-Ca.past		Ca.past	
	Phonetic form	q.p. of St.Syl.	Phonetic form	q.p. of St.Syl.	Phonetic form	q.p.of St.Syl.
VCV-	ayayum	LL	ayaɲɲu	LH	ayappiccu	LH
CVCV-	catayum	"	cataɲɲu	"	catappiccu	"
VCVC-	akalum	"	akannu	"	akaRRiccu	"
CVCVC-	pakarum	"	pakarnnu	"	pakartticcu	"
VCV-	aRiyum	LL	aRiɲɲu	LH	aRiyiccu	LL
CVCV-	paRayum	"	paRaɲɲu	"	paRayiccu	"
VCVC-	iḻakum	LL	iḻaki	LL	iḻakkiccu	LH
CVCVC-	kuRukum	"	kuRuki	"	kuRukkiccu	"

TABLE 4.6

III TRISYLLABIC AND QUADRISYLLABIC NATIVE STEMS

4.15.5 Trisyllabic and quadrisyllabic native stems have syllable quantity the pattern of which is invariable throughout the formal scatter. It may also be recorded that all such stems end in heavy syllables. Table 4.7 gives sufficient examples of verbal forms with such stems.

.CANONICAL FORM OF St.	q.p. of St.	Non-Ca. future	Non-Ca. Past	Causative Past
(i) FORMS WITH TRISYLLABIC STEMS.				
VCC̄VCV-	HHH	andhaa ɭ ikkum	andhaa ɭ iccu	andhaaɭippiccu
V̄CC̄VCV-	"	ookkaanikkum	ookkaaniccu	ookkaanippiccu
C̄V̄C̄V̄CV-	"	taaloolikkum	taalooliccu	taaloolippiccu
CVCVCCV-	LHH	turumpikkum	turumpiccu	turumpippiccu
V̄CVCV-	HLH	oomanikkum	oomaniccu	oomanippiccu
VCCVCV-	"	amparakkum	amparannu	amparappiccu
CVCCVCV-	"	pantalikkum	pantaliccu	pantalippiccu
VCVCV-	LLH	orumikkum	orumiccu	orumippiccu
CVCVCV-	"	maravikkum	maraviccu	maravippiccu
CVCVCV̄C-	"	perumaaRum	perumaaRi	perumaaRiccu
(ii) FORMS WITH QUADRISYLLABIC STEMS				
CVCVCVCV	LLLH	piRupiRukkum	piRupiRuttu	piRupiRuppiccu
CVCVCV̄CV-	LLHH	karuvaaɭikkum	karuvaaɭiccu	karuvaaɭippiccu
CVCVCCVCV-	LHLH	viRaŋŋalikkum	viRaŋŋaliccu	viRaŋŋalippiccu

TABLE 4.7

4.15.6 Correlating the points observed above with the stem-classification attempted earlier (4.2 - 4.7), it is noticeable that the changes in quantity pattern of syllables are relevant, among native stems, only to monosyllables and disyllables. Among the monosyllables, variable quantity is to be

recognized, only for -C_z final stems such as /keṯ -/ 'to become extinct' and /peR-/ 'to give birth'. Among the disyllables, however, that is to be stated for -C' final, -C_z final as well as non-C final stems (eg. /pakar-/ 'to transfer', /akal-/ 'to separate', /aRi-/ 'to know').

QUANTITY PATTERNS IN MARGINAL STEMS

4.16.0 In regard to marginal verbal forms commonly occurring in colloquial Malayalam the quantity pattern of stem syllables is found to change only in a very few instances. Moreover, almost all such changes are relevant only to the description of verbal noun forms derived from verb stems. Their discussion is, therefore, postponed to their appropriate context (7.16.0). Consequently, only examples of different types of marginal stem with invariable pattern of syllable quantity are shown below. To demonstrate the invariability of quantity pattern of stem syllables, representative forms (non-causative future and past finite forms and causative past finite form) derived from only one verb, namely /udi-/ 'to rise' are given, as this pattern of conjugation can easily be projected to the case of other verbs also.

DISYLLABLES

4.16.1

CANONICAL FORM OF Vb.St.	q.p. of St.Syl.	Non-Ca. Future	Non-Ca. Past	Causative Past
VCV-	LH	udi-kkum	udi-ccu	udi-ppiccu
		VERB STEM		
CVCV-	LH	cali-		
CCVCV-	"	smari-		
V̄CV-	HH	uuhi-		
VCCV-	"	uṣṇ i-		
CVCCV-	"	kalpi-		
CVC̄C̄V-	"	cinti-		
C̄V̄CV-	"	koopi-		
C̄V̄CCV-	"	kiirtti-		
CC̄V̄CV-	"	vyaapi-		
CC̄V̄CCV-	"	praarthi-		
CCVCCV-	"	dhvamsi-		

TABLE 4.8

TRISYLLABLES
4.16.2

CANONICAL FORM	QUANTITY PATTERN	VERB STEM
VCVCV-	LLH	upami-
CCVCVCV-	"	pracari-
VCCVCV-	HLH	astami-
VCCVCV-	"	aŋkuri-
CVCCVCV-	"	vistari-
CVCCVCV-	"	saɲcari-
CCVCCVCV-	"	ʃrəmgari-
CVCCCVCV-	"	sambhrami-
V̄CCVCV-	"	aakrami-
V̄CVCV-	"	aacari-
C̄VCVCV-	"	taamasi-
CCV̄CVCV-	"	sviikari-
CVCCCVCV-	"	saŋkrami-
CVCCV̄CV-	"	sampaadi-
VCV̄CCV-	LHH	apeekʂi-
CVCV̄CCV-	"	niriikʂi-
VCVCCV-	"	ariʂṭi-
CVCVCCV-	"	cikitsi-
CVCVCCCV-	"	niyantri-
CCVCVCCV-	"	prasamgi-
CVCV̄CV-	"	vitaani-
CCVCV̄CV-	"	prayoogi-
CCVCCV̄CV-	"	prastaavi-
CVCCVCCV-	"	vijrəmbhi-
VCCV̄CV-	HHH	adhvaani-
CVCCV̄CV-	"	nikʂeepi-
VCCV̄CV-	"	uddeeʃi-
CVCCV̄CV-	"	saŋkooci-
V̄CV̄CV-	"	aaraadhi-
V̄CVCCV-	"	aarambhi-
CCV̄CV̄CV-	"	svaadhiini-
V̄CCV̄CV-	"	aakʂeepi-
CCVCCV̄CV -	"	vyaakhyaani-
CVCCVCCV-	"	niʂkarʂi-
CVCCV̄CCV-	"	siddhaanti-

TABLE 4.9

QUADRISYLLABLES

4.16.3

CANONICAL FORM	QUANTITY PATTERN	VERB STEM
VCCVCVCV-	HLLH	attahasi-
VCVCVCV-	LLLH	anukari-
CVCVCVCV-	"	parigaɳi-
CCVCVCVCV-	"	pratiphali-
V̄CV̄CCVCV-	HHLH	aa∫iirvadi-
CVCCV̄CCVCV-	"	pa∫caattapi-
CVCCV̄CVCV-	"	sajjiikari-
VCVCCVCV-	LHLH	anugrahi-
CVCVCCVCV-	"	namaskari-
VCV̄CVCV -	"	udaahari-
CVCV̄CVCV-	"	niraakari-
CVCV̄CCVCV-	"	samaa∫vasi-
VCVCV̄CV-	LLHH	anukuuli-
CVCVCV̄CV-	"	pari∫iili-
CCVCVCV̄CV-	"	pratikuuli-
VCVCVCCV-	"	anubandhi-
CCVCVCVCCV	"	pratibimbi-
CCVCVCCV̄CV-	LHHH	vyavasthaapi-
CVCV̄CVCV-	"	samaadhaani-
CVCV̄CVCCV-	"	samaarambhi-

PENTASYLLABLES

4.16.4

VCVCVCCVCV-	LLHLH	upasamhari-
CVCV̄CCV̄CVCV-	LHHLH	vikeendriikari-
CCVCVCCV̄CVCV-	"	prasiddhiikari-

HEXASYLLABLE

4.16.5

CVCV̄CVCV̄CVCV-	LHLHLL	niraayudhiikari-

HEPTASYLLABLE

4.16.6

CCVCVCV̄CVCVCCVCV-	LLHLHLH	vyavasaayavatkari-

5. SUFFIX STRUCTURES

CHAPTER 5

SUFFIX STRUCTURES

5.0 This chapter is intended to provide, in brief, generalized statements regarding certain salient phonological features of suffix structures statable in the verbal forms studied in this thesis. Detailed discussion of each suffix is postponed to the seventh chapter entitled "Phonological Exponents of Grammatical Categories".

5.1 Suffix structures are statable in regard to the following grammatical categories: Causative, Future, Present and Past tenses, Optative, Imperative, Negative, Verbal participles, Relative participles, Purposive infinitive, Conditional, Agentive, Verbal noun. Examples of all the above categories are given below. The causative form is illustrated only as regards the future finite form.

	Non-causative	Causative
Future	uutum	uutippikkum
Present	uutunnu	
Past	uuti	
Optative	uutuka	
Imperative - sg.	uutuu	
Imperative - pl.	uutin	
Verbal participle	uute	
Neg. verbal participle	uutaate	
Relative participle -pr.	uutunna	
Relative participle - p.	uutiya	
Neg. R.P. - non-past	uutaatta	
Neg. R.P. - past	uutaaɲɲa	
Purposive infinitive	uutaan	
Conditional	uutiyaal	
Agentive	uuti	
Verbal noun	uutal	

THE STRUCTURAL PLACES IN WHICH SUFFIXES OCCUR

5.2 The present and past tense suffixes are word final in finite verbal forms and medial in relative participle forms.

eg.	Finite forms	Relative participle
pr.	uut-unnu	uut-unn-a
p.	uut-i	uut-iy-a

The agentive and verbal noun suffixes occur word finally in nominative case forms. In forms inflected for different cases these suffixes are medial occurring between verb stem and case suffixes.

eg. Agentive (maram) kott-iy-e

Verbal noun vil-ay-e

Medial versus Final suffixes.

The causative suffix is always medial in the verbal form in question.

eg. ciri-ppi-ccu

karay-i-ccu

The negative suffix statable in (1) negative verbal participle, (2) negative imperative, (3) negative past relative participle and (4) negative non-past relative participle forms is medial.

eg. (1) veeɳʈ-aa-te

(2) pook-aa-te

(3) pook-aa-ɲɲa

(4) pook-aa-tta

In finite verbal forms it is final:

veeɳʈ-aa

kuuʈ-aa

The future tense, Optative, Imperative, Verbal participle$_1$, Purposive infinitive, Relative participle, Negative verbal participle and Conditional suffixes are always word-final (see examples cited in 5.1).

NUMBER OF CONSTITUENT SYLLABLES

5.3 Verbal suffixes in Malayalam are either monosyllabic or disyllabic. The suffixes are disyllabic in the following cases:

(1) /-unnu/ the most frequent form of the present tense suffix,

(2) /-uka/ and /-ika/ two of the four forms of the optative suffix,

(3) /-aalum/ the only phonetic form of the polite imperative suffix,

(4) /-uka/ and /-ika/ two of the four forms of a verbal noun suffix.

All other forms of the suffixes discussed in this thesis are monosyllabic.

MONOSYLLABIC SUFFIXES

5.4 Monosyllabic verbal suffixes in the language may be C-initial or non-C initial.

eg.	aRi-ka	——C ə
	kuru-ttu	——CC ə
	var-um	—— ə̃^{w}
	koor-i	—— ɪ^{y}

SUFFIX INITIAL C-UNITS

5.5 The following types of C-unit have been stated initially in one or other of the suffix structures:

Plosive

Apical	Dental	cey-tu
	Alveolar	aR-Ru
	Retroflex	iʈ-ʈu
Dorsal	Velar	aRi-ka

Nasal

Labial	oor-mma
Apical	vii-ɳu

The suffix in /oor-mma/ is not considered —NN initial. See further about this point in chapter 7 (7.22.⅓).

—PP— statable initially in monosyllabic verbal suffixes:

Labial	ciri-ppi-ccaal
Apical	kuru-ttu
Dorsal	ve-ccu

—NP—

Apical	ne-ntu

—NP-lax—

Dorsal	maa-ɲɲu

—NN—

Apical	ce-nnu
Dorsal	paa-ɲɲu

For the functional difference between —NP—, —NP-lax— and —NN— systems see 3.16.

SUFFIX FINAL C-UNITS

5.6 There are only very few C-final monosyllabic suffixes. Mostly they occur word finally and only the following types of C-units possible in word final position are statable finally in such suffixes:

Nasal

Labial	var-um
Apical	var-aan

Liquid

Lateral	vann-aal

These are, in fact, the only C-elements possible in non-C initial monosyllabic suffixes.

VOCALIC ELEMENTS IN SUFFIX STRUCTURES

5.7 The vocalic elements in all C-initial suffixes are generalized as .

eg.	—Pə^{y}—	ciri-ppi-ccu
	—Pə^{w}	kuru-ttu
	—Nə^{w}	poo-ŋu

Most of the monosyllabic non-C initial suffixes have or stated initially:

eg.	—ə̃^{w}	koor-um

A few monosyllabic suffixes are, however, V-initial:

eg.	—I^{y}	koor-i
	—A^{y}	vil-a

DISYLLABIC SUFFIXES

5.8 All disyllabic suffixes are non-C initial. All vocalic elements in such suffixes constitute the syllabic system.

eg.	1.	—ə^{w} Nə	uut-unnu
	2.	—ə^{w} Pə	uut-uka
	3.	— ə P ə^{y}	uut-aṭṭe
	4.	—ə̄ L ə^{w} N	uutiy-aalum

Of such suffixes, only that stated for the polite imperative (eg. 4 cited above) end in a non-vocalic articulation; this is abstracted as N implying a bilabial nasal.

The following types of C-unit constitute the interludes between the two syllable-nuclei in disyllabic suffixes:

Plosive

Dorsal uut-uka

Liquid

	Lateral	uutiy-aalum
—PP—		
	Apical	uut-aṭṭe
—NN—		
	Apical	uut-unnu

6. JUNCTION STRUCTURES

CHAPTER 6

JUNCTION STRUCTURES

6.0 The verb stem and one or more suffixes stated after it are the grammatical elements comprising most of the verbal forms discussed in this thesis[1]. Chapters 4 and 5 were devoted to making generalized statements regarding the structure of both stems and suffixes that can be abstracted from verbal forms in colloquial Malayalam. This chapter sets out to summarise the salient features of interrelations of those grammatical element More detailed accounts of these are to be found in their appropriate context in chapter 7.

6.1 Certain phonological features stated neither as characteristic of the stem nor of any of the suffixes in a verbal form are set up as characteristic of one morphological abstraction called junction. The phonological elements of structure statable in handling junction in Malayalam verbal forms may be prosodic or phonematic or both.

SYLLABIC OR NON-SYLLABIC JUNCTION

6.2.0 Syllabicity or absence of syllabicity between the grammatical elements involved is a prosodic feature characterizing the syllables that mre in junction. Syllabicity and its absence are, therefore, considered as two inter-syllable prosodies constituting a two term junctional prosodic system relevant to any type of junction discussed in this thesis. Consequently

---

1. Note that there are a few instances of Imperative and Verbal noun for which no suffix structure is stated (7.8; 7.22.6).

junction has been generalized as either syllabic or non-syllabic.

6.2.1 Syllabic junction is always characterized by the presence of a vocalic junctional element. See /celavə / and /varavə / illustrated below. In a few instances of syllabic junction the junctional element may involve, in addition to the vocalic articulation, a consonantal articulation also (eg. /pakuti/).

6.2.2 Non-syllabic junction is of two types:

(i) Those in which a consonantal junctional element is statable. Such a junction is distinguished in formulaic expression by the symbol used to refer to the junctional element (cf. /uutaate/ illustrated below. The term "junctional element "will be explained shortly, see 6.3).

(ii) Those which involve no junctional element. A junction of this type is symbolized by a hyphen (cf. /vi⌈⌈u/ etc., cited below).

6.2.3 In Malayalam verbal forms non-syllabic junction is of much more frequent occurrence than syllabic junction which is stated only in a few instances of verb stem plus verbal noun suffix junction.

I Syllabic junction

	Stem	Junction	Suffix
(1) Between C final stem and C final suffix:			
celavə	CVC—	—ə—	—C ə
varavə	"	"	"
(2) Between C final stem and non-C final suffix:			
pakuti	CVC—	—əP—	—I
vi⌈utal	"	"	—ə L
kuu⌈utal	C̄VC—	"	"

II Non-syllabic junction

	Stem	Junction	Suffix
(i) Junction between stem and suffix:			
(1) Between C final stem and C initial suffix:			
viṭṭu	CVC—	-	—Cə
uṉṭu	VC—	-	"
(2) Between non-C final stem and C initial suffix:			
uṟutu	VCV—	-	"
porutu	CVCV—	-	"
udiccu	VCə—	-	—CCə

(ii) Junction between suffixes:
Between $\overline{\text{ə}}$ final suffix and ə initial suffix:

	Suffix 1	Junction	Suffix 2
uutaate	— $\overline{\text{ə}}$ —	—P—	— ə

JUNCTIONAL ELEMENTS

6.3.0 One way of analysing /paati/ 'half' a frequently occurring alternant of /pakuti/ cited in I(2) in section 6.2.3 is considering it as involving a non-syllabic junction between a $\overline{\text{V}}$ final stem /paa-/ and a suffix generalizable as - I, /-i/. Such an analysis would require handling of the medial /-t-/ as a junctional element expressible in phonological formulae as —P—.

In many other instances of non-syllabic junction and in two cases of syllabic junction (cf. /kuṭutal/ and /pakuti/) a junctional element involving a C-unit is statable. These two instances of syllabic junction, the non-syllabic junction in /paati/ and that between the negative and verbal

participle suffixes set up in negative verbal participle forms (eg. /uutaate/) are characterized by a lax dental plosive articulation. In all other cases of non-syllabic junction the C-unit stated may be a term in either the plosive system or the nasal system. Instances where the C stated is a P are far more numerous than those in which it is an N. The plosive articulation abstracted as the junctional element is long, tense and voiceless. Among the plosive junctional elements those with velar articulation are the most productive and those with bilabial least. Only in one instance the C stated is an N, the articulation involved being a long voiced palatal nasal. All the above statements are illustrated below.

I. JUNCTIONAL ELEMENTS STATABLE IN HANDLING INTER-RELATIONS OF STEM AND SUFFIX

6.3.1 The first to be discussed among such junctional elements is the one involving a long tense voiceless velar plosive articulation. It is stated for formulating the inter-relations of stems assigned to certain classes to be set up later (see 7.6) and ə initial suffixes in

(A) Positive finite verbal forms

and (B) forms assigned to the following grammatical categories:

(a) Verbal participle$_1$

(b) Purposive infinitive

(c) Negative finite verb

(d) Negative verbal and relative participles

and (e) Some types of Verbal noun.

Relevant forms derived from verb stem of the following types are listed below:

(1) —V final native verb stems: /oli-/ 'to flow', /vali-/ 'to pull'.

(2) —ə^{y} final marginal verb stem: /udi-/ 'to rise'.

(3) —L final native verb stems: /nil/ 'to stand', /ciir-/ 'to swell' /vil-/ 'to sell', /keeɻ-/ 'to hear', /oor-/ 'to remember'. The formulaic way of expressing the phonological structures is indicated in regard to only a few representative forms (see Table 6.1), as expressions for other forms are easily deducible from those already given.

(A) POSITIVE FINITE VERBAL FORMS

(1) Positive finite verbal forms which end in future or present tense suffix

Category	Phonetic form	Stem final	F.E.	Suffix initial
intr. f.	olikkum	—I^{y}	—p—	ə—
intr. pr.	olikkunnu	"	"	"
intr. f.	udikkum	—ə^{y}	"	"
intr. pr.	udikkunnu	"	"	"
intr. f.	nilkkum	—L	"	"
intr. pr.	nilkkunnu	"	"	"
intr. f.	ciirkkum	"	"	"
intr. pr.	ciirkkunnu	"	"	"
tr. f.	vilkkum	"	"	"
tr. pr.	vilkkunnu	"	"	"
tr. f.	keeɻkkum	"	"	"
tr. pr.	keeɻkkunnu	"	"	"
tr. f.	oorkkum	"	"	"
tr. pr.	oorkkunnu	"	"	"

TABLE 6.1

(2) Imperative

sg.	valikkuu	udikkuu	nilkkuu
pl.	valikkin	udikkin	nilkkin

(3) Optative

valikka	udikka	nilkka
valikkuka	udikkuka	nilkkuka
valikkatte	udikkatte	nilkkatte

(B) Examples of NEGATIVE and INFINITE VERBAL FORMS involving such a junctional element:

(a) Verbal participle$_1$

valikke	udikke	nilkke

(b) Purposive infinitive

valikkaan	udikkaan	nilkkaan

(c) Negative finite verb

valikkaa	udikkaa	nilkkaa

(d)i. Negative verbal participle

valikkaate	udikkaate	nilkkaate

ii. Negative relative participle - non-past

valikkaatta	udikkaatta	nilkkaatta

iii. Negative relative participle - past

valikkaaṉṉa	udikkaaṉṉa	nilkkaaṉṉa

(e) Verbal noun

valikka	udikka	nilkka
valikkuka	udikkuka	nilkkuka
valikkal	udikkal	nilkkal

6.3.2 The second to be taken into account among junctional elements statable between stem and suffix will be illustrated now. The inter-relations involved are those of certain types of verb stem (indicated in Table 6.2) and non-C initial suffixes in transitive verbal forms and in one type of verbal noun.

Category	Phonetic form	Stem final	J.E.	Suffix initial
tr. f.	taaɣttum	—X	—P—	ə—
tr. pr.	taaɣttunnu	"	"	"
tr. p.	taaɣtti	"	"	I^y
tr. f.	uɳarttum	—L	"	ə—
tr. pr.	uɳarttunnu	"	"	"
tr. p.	uɳartti	"	"	I^y
tr. f.	paRattum	—CA^w	"	ə—
tr. pr.	paRattunnu	"	"	"
tr. p.	paRatti	"	"	I^y
V.N.	iruttam	"	"	ə—

TABLE 6.2

6.3.3 A third junctional element, also expressible in phonological formulae as —P— is stated in verbal noun forms. The articulation involved is a long tense voiceless bilabial plosive and occurs immediately after the verb stem.

		Stem final	J.E.	Final syllabic release vowel
eg.	parappə	—V	—P—	ə
	paʈhippə	—ə	"	"

II JUNCTIONAL ELEMENTS STATABLE IN HANDLING INTER-RELATIONS OF SUFFIXES

6.3.4 The first of such junctional elements is expressed in phonological formulae as —P— and stated in certain causative forms (eg. /eelppikkum/) and some imperative forms (eg. /uutikkoo, uutikee/). The articulation

involved is a long tense voiceless velar plosive. The structural elements in junction are non-C final and $\overline{\breve{\text{ə}}}^{y}$ initial. The salient features of the junction are the same as those in the case of the junction between non-C final stem and ə initial suffix where a junctional element involving the same type of articulation is stated (see 6.3.1). For this reason they are not mentioned again at this point.

6.3.5 The following two examples reveal the functional contrast between junctional elements occurring between successive suffixes in negative past and non-past relative participle forms:

Neg. R.P. - past uutaaɲɲa

Neg. R.P. - non-past uutaatta

The junctional elements set up in such instances may be expressed phonologically as —N— in past forms and —PP— in non-past forms. The articulations involved are (1) a long voiced palatal nasal and (2) a long tense voiceless dental plosive respectively.

Phonetic form	Suffix 1	J.E.	Suffix 2
uutaaɲɲa	— $\overline{\text{ə}}^{y}$	—N—	ə
uutaatta	— $\overline{\text{ə}}$	—PP—	"

JUNCTIONAL PROSODIES

6.4.0 Other than the two term junctional prosodic system, of which the constituent terms are the prosodies of syllabicity and its absence (see 6.2), there are three more junctional prosodic systems set up in this thesis.

6.4.1. The first of these three has, as its constituent terms y or w . The chief phonetic implications of a y-prosodic junction are frontness of articulation and lip-spreading; those of a w-prosodic junction

backness of articulation and lip-rounding.

6.4.2 The next junctional prosodic system to be discussed is also a two term one. In general, the following are the chief phonetic implications of the prosodies of gemination (g) and its absence (ǵ) that are terms in this system:

g: tense voiceless long articulation which is, in the majority of instances, a plosive. No nasal articulation is possible in a g-prosodic junction.

ǵ: lax voiced articulation. ǵ -prosodic junction does not exclude nasality.

6.4.3 Finally a one term junctional prosodic system is also set up with the prosody denoted by the sign ≠ and implying the non-relevance of y, w, g and ǵ.

6.4.4 It would seem that certain other phonetic features like retroflexion could also have been handled in terms of junctional prosodic systems. A prosodic treatment of retroflexion, for example, will bring to light the inter-relations of stem and suffix in instances like /uɳʈu/ (< uɳ-) and /uruɳʈu/ (< uruɭ -) more significantly than another analysis which handles the same situation in terms of predictability of the suffix from the phonematic structure of the stem final syllable. There are, however, only a handful of instances of native verbal forms in Malayalam that are amenable to such an analysis. This study has, therefore, chosen to follow the latter course in analysing forms like those cited above. At the same time, it has to be stressed that in regard to marginal forms, treatment of retroflexion in prosodic terms will be quite profitable (see 7.24.5; Allen 1951 and 1954).

STEM-SUFFIX JUNCTION versus SUFFIX JUNCTION

6.5 The junction structures relevant to the purposes of the present study involve two types of inter-relation:

I. Those between stem and suffix, stated immediately after the stem.

II. Those between two successive suffixes.

For the sake of convenience of reference, inter-relations of the first type are discussed under the heading "Stem-Suffix Junction" and those of the second type under "Suffix Junction".

STEM-SUFFIX JUNCTION

6.6.0 Verb stems discussed in this thesis have been grouped under either C final or non-C final. Similarly suffixes are either C initial or non-C initial. Logically, therefore, the inter-relations involved can be viewed as due to one of the following types of juxta‿position of structural elements:

1. Non-C final stem + non-C initial suffix
2. Non-C final stem + C initial suffix
3. C final stem + non-C initial suffix
4. C final stem + C initial suffix

These are taken up for discussion one by one.

(1) Non-C final stem + Non-C initial suffix

6.6.1 It will be recalled here that the term "non-C" includes, simultaneously V and ↄ . As no V initial suffix is statable after non-C final stems the relations that can be discussed under this heading are confined to those between V final or ↄ final stems and ↄ initial suffixes.

One important aspect of this type of junction is that the

junctional prosody is predictable from the prosodic structure of the stem final syllable. The stem final syllable and the junction are homoprosodic . Of the two possibilities of junctional prosodies in this case, namely y and w, the choice is clear cut if the stem final V is in the non-open range (cf. examples 2, 3, 5 and 6 in Table 6.3). If, however, the stem final V is in the open range (eg. 4 and 7), it would seem the choice is indeterminate in the sense that the junctional prosody may be either y or w. But once other members of the formal scatter of these verbs are examined (eg. the past forms /ciiɲɲu/ and /kaattu/) the prosodic structure of the stem (final) syllable will be obvious and from this point of view there is no lack of predictability of junctional prosodies even in such cases.

Phonetic form	Stem final	J.	Suffix initial
1. udikkum	—ə^{y}	^{y}— P—	ə—
2. ciiyum	—$\bar{I}^{y}$	y	"
3. teeyum	—$\bar{E}^{y}$	"	"
4. caayum	—$\bar{A}^{y}$	"	"
5. puukkum	—$\bar{I}^{w}$	^{w}— P—	"
6. okkum	—E^{w}	"	"
7. kaakkum	—$\bar{A}^{w}$	"	"

TABLE 6.3

(2) Non-C final stem + C initial suffix

6.6.2 The junction is characteristically non-syllabic and devoid of any junctional element in this case.

The selection of the suffix in each case can be found to be conditioned by the prosodic structure of the stem final.

Phonetic form	Stem final	J.	Suffix initial
udiccu	—$\bar{\text{ə}}^{y}$	-	P—
ciiccu	—$\bar{\text{I}}^{y}$	-	"
teeccu	—$\bar{\text{E}}^{y}$	-	"
caaccu	—$\bar{\text{A}}^{y}$	-	"
puuttu	—$\bar{\text{I}}^{w}$	-	"
ottu	—$\bar{\text{E}}^{w}$	-	"
kaattu	—$\bar{\text{A}}^{w}$	-	"

TABLE 6.4

(3) C final stem + Non-C initial suffix

6.6.3 It will be recalled that C final stems have been sub-classified into variable-C final (—C_z), constant-C final (—C') and constant - CC final (—CC') (see 4.6.1-2). Sufficient examples of all these types of C final stem in junction with non-C final suffix are given in Table 6.5.

The junction involving C_z final stems is either ǵ-prosodic or g-prosodic. In other cases it is ≠ prosodic.

(4) C final stem + C initial suffix

6.6.4 C initial suffixes are not stated after CC' final stems. Examples under this heading can, therefore, be given only of C_z final and C' final stems in junction with C initial suffixes. The junction in both cases is non-syllabic and ≠ prosodic. See, however, the treatment of /celava/ and /varava/ (6.2.3; 7.22.5)

Examples	Stem final	J.	Suffix initial
uɳ- > uɳʈu	—C_z	≠	C—
iʈ- > iʈʈu	"	"	"
oorttu	—C'	"	"
uurṉṉu	"	"	"

Category	Phonetic form	Stem final	J.	Suffix
intr. p.	kuɳʈi	—C_z	∉	I^y
tr. p.	kuuʈʈi	"	∈	"
intr. f.	maaRum	"	∉	$\tilde{ə}^w$
tr. f.	maaRRum	"	∈	"
tr. p.	kooti	—C'	≠	I^y
tr. f.	kootum	"	"	$\tilde{ə}^w$
tr. p.	kotti	—CC'	"	I^y
tr. f.	kottum	"	"	$\tilde{ə}^w$

TABLE 6.5

SUFFIX JUNCTION

6.7.0 This section deals with the inter-relations of successive suffixes set up in Malayalam verbal forms. All suffixes statable immediately after other suffixes in the verbal forms studied are ə initial. Similarly all suffixes statable immediately before other suffixes are V final. The possibilities of junction between suffixes are, therefore, limited to inter-relations of V final and ə initial suffixes.

6.7.1 A word may be said here about the non-syllabic junction of consonantal past suffixes and ə initial suffixes in instances like the following:

Relative participle - past	:	vecca
Conditional	:	veccaal
Imperative	:	veccee
"	:	veccoo
Polite Imperative	:	veccaalum

It may be noted that the consonantal past suffixes statable in forms like /ciriccu, irunnu/ etc. need be stated as ə final only when these suffixes occur in absolute final position. If, what follows immediately is a V initial word, even in word final position the final syllabic release vowel is not retained. It is, therefore, not profitable to handle forms like /vecca/ as involving the junction of a ə final suffix and a ə initial suffix.

V final suffix + ə initial suffix

6.7.2 The first suffix in this case is symbolized as —I^{y} and the junction is homoprosodic with this. In two imperative forms the junction is further characterized by the presence of a junctional element expressed as —P— and pointed out earlier (6.3.4).

$$—I^{y} + \overset{\smile}{ə} — \;>\; —I^{y}\ y\ ə—$$

eg.	uuti	+ a	>	uutiya
	"	+ aal	>	uutiyaal
	"	+ aalum	>	uutiyaalum

$$—I^{y} + \overline{\partial} — \;>\; —I^{y} —p— \overline{\partial} —$$

eg. uuti + oo > uutikkoo

" + ee > uutikkee

INTERNAL versus EXTERNAL JUNCTION

6.8.0 Stem-suffix junction and suffix junction discussed so far are instances of junction within word boundaries. An analysis intending to handle inter-word relations in the verbal piece has to deal with junction across word boundaries also. It would, therefore, be convenient to refer to these two types of junction by two distinctive labels, namely, "Internal Junction" and "External Junction" respectively. Most of the characteristic features of the former have been detailed in the preceding sections of this chapter. A few general comments on external junction will be given below. Particular statements are postponed to be introduced and illustrated in appropriate contexts in the next chapter.

Verbal forms in the language may be C final or non-C final. Verbal or other forms that usually follow verbal forms in connected speech and can be in junction with them may be C initial or non-C initial. The inter-relation involved may, therefore, be of the following four types:

1. non-C final verbal forms + non-C initial word
2. non-C final verbal form + C initial word
3. C final verbal form + non-C initial word
4. C final verbal form + C initial word.

(i) Non-C final verbal form + non-C initial word

6.8.1 Depending on the prosodic structure of the final suffix, the non-C final verbal form may be y-prosodic, w-prosodic or o-prosodic. Generally it may be stated that the junction involving a y-prosodic verbal

form is also y-prosodic, whereas that which involves a w-prosodic verbal form is characterized by the elision of the final ə . The junction involving an o-prosodic verbal form needs special comments and is, therefore, postponed for a detailed examination in the next chapter (7.14.7).

(i) Junctions involving a y-prosodic V final verbal form:

$$—I^{y} + V— > I^{y}\ y\ V$$

(a) Vocalic past suffix final form + V initial word:

eg. uuti + illa > uutiyilla

(b) Agentive suffix final form + V initial word:

eg. (maram) kotti + aaŋə > maramkottiyaaŋə

(ii) Junctions involving a y-prosodic ə final verbal form:

$$—ə^{y} + V— > ə^{y}\ y\ V$$

(a) Verbal participle$_1$ + V initial word

eg. irikke + alla > irikkeyalla

(b) Negative verbal participle + V final word

eg. uutaate + alla > uutaateyalla

It may be noted that in junction with a close front vowel beginning word this —$ə^{y}$ stated finally for the negative verbal participle is elided, although it is y-prosodic.

$$—C\,ə^{y} + I— > CI$$

eg. uutaate + irunnu uutaatirunnu

(iii) Junctions involving a w-prosodic final verbal form:

$$— ə^{w} + I— > I$$

Although this would seem to be one way of formulating the external junction in forms like /veccilla/ and /vekkunnilla/ it may be stressed here that the

presence of the syllabic vowel is one mark of finality of the piece and there is no need, in fact, to state such a rule of elision of $— ə^{w}$ at a structural place where its presence is out of the question. (See the discussion of another face of the same problem in 6.7.1).

(2) Non-C final verbal form + C initial word

6.8.2 In junction between w-prosodic non-C final verbal forms and C initial words the word final syllabic release vowel is retained and accompanied by lip-rounding. The junction is further characterized by the lax articulation of any plosive which begins the C initial word.

$$— ə^{w} + P— > — ə^{w} \quad P—$$

See for example three past suffix final forms in junction with a C initial word:

ninnupooyi

nontupooyi

veccupooyi

The junction in the case of y-prosodic non-C final verbal forms ending in agentive or negative verbal participle suffixes and o-prosodic ə final verbal forms ending in relative participle suffix is characterized by the lax articulation of the following plosive.

Category	Examples	Phonological generalization
Agentive	(maram) kotti pooyi	$—I^{y} + P— > —I^{y} \; P—$
Neg. V.P.	uutaate pooyi	$—ə^{y} + P— > —ə^{y} \; P—$
R.P.	uutiya paaRRa	$—ə^{o} + P— > —ə^{o} P—$

Junction involving y-prosodic non-C final forms ending in the vocalic past suffix and the VP_1 suffix is characterized by the long tense voiceless articulation of any plosive that is stated at the beginning of the C initial word.

Category	Examples	Phonological generalization
p. suffix } final form }	uutippooyi	—I^y + P— > —I^y PP—
VP_1	irikkeppooyi	—∂^y + P— > —∂^y PP—

(3) C final verbal form + Non-C initial word

6.8.3 C final verbal forms to be discussed under this and the next headings are those for which one of the following suffixes are stated: future /-um/, purposive infinitive /-aan/ and conditional /-aal/. Their junction with non-C initial words is characterized by the ≠ prosody.

Examples	Phonological generalization
varumippoo]	—N + I— > —N ≠ I—
varaanippoo]	" "
vannaalippoo]	—L + I— > —L ≠ I—

(4) C final verbal form + C initial word

6.8.4 The characteristic features of external junction involving verbal forms that end in the purposive infinitive suffix or the future suffix will be described in detail in the next chapter (see 7.11; 7.14.8-9). They are, therefore, not discussed here.

The junction of verbal forms ending in the conditional suffix /-aal/ with C initial words in characterized as follows: Any plosive or affricate articulation with which the following word begins will be usually tense, long and voiceless. This is to be viewed as characteristic of the P system to which such articulations are allotted. Note that g or ɡ prosodic system is functional generally in regard to the plosive system.

Examples	Phonological generalization
ninnaal ppooraa	—L + P— > —LPP—
vannaal ttallum	"

Examples	Phonological generalization
ninnaal ceeyyum	—L + P— > —LPP—
tannaal kkoḷḷaam	"

It is also worthy of mention that although represented in the orthography and in the reading transcription the suffix final lateral is not heard in the usual colloquial style.

7. PHONOLOGICAL EXPONENTS OF GRAMMATICAL CATEGORIES

CHAPTER 7

PHONOLOGICAL EXPONENTS OF GRAMMATICAL CATEGORIES

7.0 This chapter proposes to give phonological expression to the different phonetic forms of the various verbal suffixes in Malayalam and to establish the required number of suffixes for the verb in the language. The grammatical categories set up in the chapter entitled "Grammatical Outline" will be taken up here for detailed phonological study. The problem is approached polysystemically, the contrasts being studied in terms of several small systems defined both grammatically and phonologically. Attention is focused on inter-relations of stems and suffixes which may be qualitative or quantitative or both. This has led to the statement of different types of junctional structure.

After detailed discussions of contrast between intransitive and transitive forms and that between non-causative and causative forms all suffixes which can be stated immediately after verb stems are taken up one by one for a close examination from a phonological stand-point. Accordingly the suffix structures in the following types of verbal form are discussed in succession: future, present, past, optative, imperative, verbal participle$_1$, purposive infinitive and negative. This is followed by an examination of forms comprising suffix structures statable only after either the tense suffixes or the negative suffix. This discussion includes the phonological study of verbal forms assigned to the following grammatical categories: relative participle, verbal participle$_2$, conditional and polite

imperative. Of these, only the polite imperative forms occur sentence-finally; all others occur before other forms with which they colligate.

TRANSITIVE versus INTRANSITIVE

7.1.0 In chapter 2 verbs in Malayalam were assigned to one of three groups A, B and C, the major consideration for such a classification being whether or not there are mutually contrasting intransitive and transitive forms in the scatter of each verb (2.13). Among the verbs thus examined, only those belonging to group C, of which there are mutually contrasting transitive and intransitive forms, need be discussed in detail at the moment.

7.1.1 The contrast between transitive and intransitive forms of all group C verbs can be formulated in terms of a two term prosodic system comprising gemination and its absence (symbolized as g and ǵ respectively and discussed in detail in section 6.4.2). Sufficient examples of intransitive future, transitive future, intransitive past and transitive past forms of some verbs in Malayalam and their generalized structure are shown in Table 7.1.

In all examples the g-prosody is stated only for the transitive forms (1b — 14b and 1d — 14d) and ǵ for the intransitive forms (1a — 14a and 1c — 14c). The phonetic implications of g in every case include a plosive or affricate articulation which is long voiceless and tense; those of ǵ include in the great majority of cases a voiced and fairly lax articulation which may or may not involve nasality.

Now, the phonetic exponents of ǵ or g stated in the intransitive or transitive forms of different sub-classes of group C verb are discussed below.

Phonetic forms: a. Intransitive future b. Transitive future c. Intransitive past d. Transitive past	Generalized stem-structure	Prosody stated		Junctional element	Suffixes			
					future	past		
		ɸ	ɛ		—ə̃ʷ	—Iʸ	—NP-laxəʷ	—Pəʷ
1a. muRukum	CVCVP—	x			x			
b. muRukkum	"		x		x			
c. muRuki	"	x				x		
d. muRukki	"		x			x		
2a. aaṭum	V̄P—	x			x			
b. aaṭṭum	"		x		x			
c. aaṭi	"	x				x		
d. aaṭṭi	"		x			x		
3a. eeRum	V̄P—	x			x			
b. eeRRum	"		x		x			
c. eeRi	"	x				x		
d. eeRRi	"		x			x		
4a. niiɻum	C̄V̄L—	x			x			
b. niiṭṭum	"		x		x			
c. niiɳṭu	"	x						x
d. niiṭṭi	"		x			x		
5a. cuɣalum	CVCVL—	x			x			
b. cuɣaRRum	"		x		x			
c. cuɣannu	"	x					x	
d. cuɣaRRi	"		x			x		
6a. kuumpum	C̄V̄NP-tense-	x			x			
b. kuuppum	C̄V̄P^{g}—		x		x			
c. kuumpi	C̄V̄NP-tense-	x				x		
d. kuuppi	C̄V̄P^{g} —		x			x		
7a. poŋŋum	CVNP-lax—	x			x			
b. pokkum	CVP^{g}—		x		x			
c. poŋŋi	CVNP-lax—	x				x		
d. pokki	CVP^{g}		x			x		
8a. taaɣum	C̄V̄X—	x			x			
b. taaɣttum	"		x	—P-a—	x			
c. taaɣannu	"	x					x	
d. taaɣtti	"		x	—P-a—		x		
9a. tiirum	C̄V̄Lf—	x			x			
b. tiirkkum	"		x	—P-d—	x			
c. tiirnnu	"	x					x	
d. tiirttu	"		x					x
10a. uɳarum	VCVLf—	x			x			
b. uɳarttum	"		x		x			
c. uɳarnnu	"	x					x	
d. uɳartti	"		x			x		
11a. kariyum	CVCI^{y}—	x			x			
b. karikkum	"		x	—^{y}P-d—	x			
c. kariɲɲu	"	x					x	
d. kariccu	"		x					x
12a. teeyum	C̄Ē^{y}—	x			x			
b. teeykkum	"		x	—^{y}P-d—	x			
c. teeɲɲu	"	x					x	
d. teeccu	"		x					x
13a. valayum	CVCA^{y}—	x			x			
b. valaykkum	"		x	—^{y}P-d—	x			
c. valaɲɲu	"	x					x	
d. valaccu	"		x					x
14a. paRakkum	CVCA^{w}—	x		—^{w}P-d—	x			
b. paRattum	"		x	—^{w}P-a—	x			
c. paRannu	"	x					x	
d. paRatti	"		x	—^{w}P-a—		x		

TABLE 7.1

In all examples the g-prosody is stated only for the transitive forms (1b—14b and 1d—14d) and ɡ for the intransitive forms (1a—14a and 1c—14c). The phonetic implications of g in every case include a plosive or affricate articulation which is long voiceless and tense; those of ɡ include in the great majority of cases a voiced and fairly lax articulation which may or may not involve nasality.

Now, the phonetic exponents of ɡ or g stated in the intransitive or transitive forms of different sub-classes of group C verb are discussed below.

PLOSIVE FINAL STEMS

7.1.2 Verbs with —C_z.final stems where the stem final —C is a plosive unit:

eg.	muRuk-	'to be tightened'
	aaʈ-	'to swing'
	eeR-[1]	'to increase'

The phonetic exponents of ɡ stated in the intransitive forms of such verbs include a single consonantal articulation which is voiced and fairly lax (1a—3a and 1c—3c). Those of g stated in the transitive forms of such verbs include a long voiceless tense plosive articulation homorganic with the stem final articulation (1b—3b and 1d—3d). See spectrograms 1 and 2 (included in section 8.4 of this thesis) for a comparison of the following two pairs of verbal forms: /aaʈum; aʈʈum/ and /eeRum; eeRRum/.

LATERAL FINAL STEMS

7.1.3 Verbs with —C_z final stems where the stem final —C is a lateral

1. Although /R/ represents a flapped articulation (1.26) phonologically this patterns with plosives like /k/ and /ʈ/ (1.33.1; 3.14.0).

unit:

eg. n̲ii ɽ- 'to be elongated'

cu ɽ al- 'to revolve'

Transitive forms

The phonetic exponents of g stated in the transitive forms include a long voiceless tense plosive articulation homorganic with the stem final articulation (4b, d; 5b, d).

Intransitive non-past forms

The phonetic exponents of ɡ stated in the intransitive non-past forms of such verbs include a single lateral articulation which is voiced and lax (4a, 5a).

Intransitive past forms

The phonetic exponents of ɡ stated in the intransitive past forms of such verbs are predictable from the point of view of the phonetic implications of the C unit stated stem finally.

If the stem final C unit implies a retroflex lateral, then a past suffix expressible as —NP ɔ^{w} is to be stated, where the phonetic implications of the C elements will be a retroflex nasal plus homorganic plosive articulation.

eg. 4c. n̲ii ɽ- > n̲iiɳɽu

If the stem final C unit implies an apical lateral, then a past suffix expressible as —N̲P̲-lax ɔ^{w} is to be stated where the phonetic implications of the C elements will be a long voiced dental nasal.

eg. 5c. cu ɽ al- > cu ɽ a n̲n̲u

—NP FINAL STEMS

7.1.4 The stem final —N̲P̲ may be tense as in /kuump-/ 'to fold' or lax

as in /poŋŋ-/ 'to rise' (3.16.2). Phonetically it is a complex articulation involving a bilabial nasal followed by a homorganic plosive in the former and a long velar nasal in the latter.

The phonetic exponents of ∉ in regard to —NP-tense forms include voice and partial nasality in the stem final consonantal articulation (6a, c). Those in regard to —NP-lax forms include voice and complete nasality (7a, c).

Those of g in regard to both —NP-tense and —NP-lax forms include long voiceless tense plosive articulation homorganic with the stem final consonant (6b, d; 7b, d).

CONTINUANT FINAL STEMS

7.1.5 As regards verbs with /ɣ/ final stems such as /taaɣ-/ 'to descend', the phonetic exponents of g stated in the transitive forms include a junctional element generalized as —P— and statable between the stem and the suffix. This —P— implies, phonetically, a long voiceless tense dental plosive articulation in my idiolect (8b, d). It may also be recorded here that in some dialects this has been attested as a velar articulation. Hence the form /taakki/ 'decreased'.

∉ stated in the intransitive forms of such verbs in realized as the absence of any such junctional element (8a, c). Furthermore, in the intransitive past forms the exponents of ∉ include a past suffix generalized as —NP-lax ɔ^{w} (see 8c).

FLAPPED FINAL STEMS

7.1.6 The exponents of ∉ stated in the intransitive forms of verbs with both monosyllabic and disyllabic /-r/ final stems (eg. /tiir-/ 'to finish', /uɳar-/ 'to wake') include the absence of any non-syllabic junctional element in the non-past forms (9a, 10a) and a past suffix generalizable

as —NP-lax ə^{w} in the past forms (9c, 10c).

g has different exponents in the transitive forms of such verbs with monosyllabic and disyllabic stems. As regards verbs with monosyllabic stems, the exponents of g include non-syllabic junctional element statable before non-past suffixes and implying phonetically a long voiceless tense velar plosive articulation (9b). The exponents of g in the past forms of such verbs comprise a past suffix generalizable as —P ə^{w} and implying a long voiceless tense dental plosive (9d).

In regard to verbs with disyllabic /r/ final stems the exponents of g include a non-syllabic junctional element for which a long voiceless tense dental plosive is to be stated both in the past and non-past transitive forms (10d, 10b).

The exponents of ɡ stated in all intransitive non-past forms include absence of such a junctional element (10a). In the intransitive past forms they include a past suffix generalizable as —NP-lax ə^{w} (see 10c).

NON-C FINAL STEMS

7.1.7 y-prosodic non-C final stems

eg. /kari-, tee-, a↑a-/ 'to be burnt', 'to wear of', 'to be closed'

Past forms

The exponents of ɡ include a past suffix generalizable as —NP-lax ə^{w} and those of g include a past suffix that can be expressed as —P ə^{w} (11c, d—13c, d).

Non-past forms

The exponents of g include a non-syllabic junctional element generalizable as —P— before non-past tense suffixes. The phonetic implications of this —P— include a long voiceless tense velar plosive (11b—13b).

The exponents of ɡ include the absence of such a linking element (11a——13a).

7.1.8 w-prosodic non-C final stems

The transitive non-past and intransitive and transitive past forms derived from w-prosodic non-C final stems such as /kaʈa-, cura-, paRa-/ 'to cross', 'to be filled with milk', 'to fly' resemble the corresponding forms derived from /ɣ/ final or disyllabic /r/ final stems discussed a while ago (7.1.5-6). The exponents of g stated in them include a non-syllabic junctional element implying a long voiceless tense dental plosive articulation (14b, d). Those of ɡ stated in the intransitive past form include the absence of such a junctional element coupled with the presence of a past tense suffix generalizable as —NP-lax ɔ^{w} (eg. 14c).

But the intransitive non past forms of such verbs (/paRakkum, paRakkunnu/) would seem to present a problem. Till now, wherever ɡ has been stated as an element of structure, its phonetic exponents included laxness of articulation and voice with or without nasality. But in these intransitive forms such features are conspicuous by their absence. Multiple exponency of an abstraction is, however, permitted in prosodic analysis. From this point of view, it may be stated that the phonetic exponents of ɡ in such cases include a long voiceless tense plosive articulation at a region (velar) clearly different from that employed in the case of g (dental).

An examination of intransitive future forms such as /irikkum/ 'will sit' and /nilkkum/ 'will stand' in contrast with the corresponding transitive forms /iruttum/ and /niRuttum/ will reveal that this pattern of exponency of ɡ and g just mentioned is reflected in some other instances also.

CAUSATIVE versus NON-CAUSATIVE

7.2.0 The causative versus non-causative contrast in Malayalam verbal forms can be handled by stating the presence or absence of a causative suffix in most instances. In a few cases, it would be convenient to set up a two term junctional prosodic system comprising g and ǵ to formulate the inter-relations of stems and suffixes. The following discussion frequently refers to Table 7.2 where sufficient examples of non-causative future, causative future, non-causative past and causative past forms of some Malayalam verbs are shown together with the indication of their generalized structure.

VERBS WITH LIQUID - OR NON-C FINAL STEMS

eg. /eel-/ 'to undertake', /kee ɭ -/ 'to hear', /koor-/ 'to string together'; /udi-/ 'to rise', /ciri-/ 'to laugh', /ara-/ 'to grind', /tuRa-/ 'to open', /o-/ 'to fit', /e ɽ u-/ 'to take'.

The phonetic form of the causative suffix occurring after such stems is transcribed as /-ppi-/. The following formulaic expression is proposed to be used to refer to it in phonological statements: —P ɔ ^{y}—. Phonetically this implies a long voiceless tense bilabial plosive followed by a short close front vowel (see 1b, d——5b, d).

PLOSIVE - AND CONTINUANT FINAL STEMS

7.2.2 eg. /i ʈ-/ 'to put', /peR-/ 'to give birth'

/u ɣ-/ 'to plough'

The V unit preceding the stem final C in all these instances is short. The continuant final stem is further characterized by invariably light syllable quantity. The phonetic form of the causative suffix occurring after such stems is transcribed as /-ii-/. But for all phonological purposes

Phonetic forms: a. Non-causative f. b. Causative f. c. Non-causative p. d. Causative p.	Generalized stem structure	Prosody stated		Ca. suffix		J.E.	Tense suffixes	
		ɛ́	ɛ	—Pə^{y}—	—ə̆^{y}—	—P-d—	f. —ə̆^{w}	Past P. plosive S. N. nasal S. NP. nasal + plosive V. vocalic S.
1a. eelkkum	V̄L—					x	x	
b. eelppikkum	"			x		x	x	
c. eeRRu	"							P
d. eelppiccu	"			x				P
2a. kee ɻ kkum	CV̄L—					x	x	
b. kee ɻ ppikkum	"			x		x	x	
c. kee ʈʈ u	"							P
d. kee ɻ ppiccu	"			x				P
3a. koorkkum	"					x	x	
b. koorppikkum	"			x		x	x	
c. koorttu	"							P
d. koorppiccu	"			x				P
4a. udikkum	VC ^{y}—					x	x	
b. udippikkum	"			x		x	x	
c. udiccu	"							P
d. udippiccu	"			x				P
5a. cirikkum	CVCV^{y}—					x	x	
b. ciripikkum	"			x		x	x	
c. ciriccu	"							P
d. ciripiccu	"			x				P
6a. i ɻ um	VP—						x	
b. i ɻ iikkum	"				x	x	x	
c. i ʈʈ u	"							P
d. i ɻ iiccu	"				x			P
7a. peRum	CVP—						x	
b. peRiikkum	"				x	x	x	
c. peRRu	"							P
d. peRiiccu	"				x			P
8a. u ɣ um	VX—						x	
b. u ɣ iikkum	"				x	x	x	
c. u ɣ utu	"							P
d. u ɣ iiccu	"				x			P
9a. koyyum	CVX—						x	
b. koyyikkum	"				x	x	x	
c. koytu	"							P
d. koyyiccu	"				x			P
10a. ootum	V̄P—						x	
b. ootikkum	"				x	x	x	
c. ooti	"							V
d. ooticcu	"				x			P
11a. veevum	CV̄^{k}/v—						x	
b. veevikkum	"				x	x	x	
c. ventu	"							NP
d. veeviccu	"				x			P
12a. tinnum	CV̄N—	x					x	
b. tiiRRum	"		x				x	
c. tinnu	"	x						N
d. tiiRRi	"		x					V
13a. u ŋ ŋ um	V̄N—	x					x	
b. uu ʈʈ um	"		x				x	
c. u ŋ ɻ u	"	x						N
d. uu ʈʈ i	"		x					V
14a. kaa ɳ um	CV̄N—	x					x	
b. kaa ʈʈ um[2]	"		x				x	
c. ka ŋ ɻ u	"	x						N
d. kaa ʈʈ i[2]	"		x					V

TABLE 7.2

2. An alternative set of causative forms derived from the same verb stem and patterning with those derivable from /oot-/ (cf.10) is also current in colloquial Malayalam:/kaa ŋ ikkum, kaa ŋ iccu/.

it may be generalized as — $\overline{\partial}^{y}$ —. Phonetically this implies a long close front vowel (see 6b, d——8b, d).

Now refer to causative forms derived from plosive final stems where the stem final C is preceded by a long V unit and to continuant final stems characterized by invariably heavy syllable quantity:

eg. /oot-/ 'to recite', /vee^{v}/k-/ 'to be boiled'

/koy-/ 'to reap', /cey-/ 'to do'.

The causative suffix occurring after such stems has been transcribed as /-i-/, but is generalizable as — ∂^{y} — implying, phonetically, a short close front vowel (see 9b, d——11b, d).

NASAL FINAL STEMS

7.2.3 eg. /tin-/ 'to eat', /uŋ-/ 'to eat', /kaaŋ-/ 'to see'

To formulate the inter-relations of such stems and the various suffixes occurring after them in causative and non-causative forms a two term junctional prosodic system comprising g and ɡ is set up. g is stated for all causative forms and ɡ for all non-causative forms. The phonetic implications of g include a long voiceless tense plosive articulation in the stem final position. In the case of apical final stems the plosive articulation is apical (see 12) and where the stems are retroflex final the plosive articulation is also retroflex (see 13 and 14).

The phonetic implications of ɡ include the absence of features stated as exponents of g (see 12a, c——14a, c).

Spectrogram 3, included in section 8.4 facilitates comparison of /tinnum/ and /tiiRRum/.

OTHER SUFFIXES OCCURRING IMMEDIATELY AFTER VERB STEMS

7.3 In the previous section a number of instances have been shown where a causative suffix occurs immediately after verb stems. The following

sections deal with other such suffixes occurring immediately after verb stems. From a polysystemic point of view it is but logical to treat such suffixes separately from those which occur only after either the tense - suffixes or the negative suffix.

FUTURE FORMS

7.4 Table 7.3 gives some instances of future finite verbal forms in Malayalam together with the corresponding present forms.

In handling the future forms of almost all verbs in the language the analyst has to deal with only one phonetic form which is represented in reading transcription as /-um/. In present day Malayalam /veeɳam/ (< /veeɳ-/ 'to require') seems to be the only exception where one may be tempted to state a future suffix of the shape /-am/. But it may be noted here that the usage of /veeɳam/ is considerably specialized in instances such as /kuʈʈikku paal veeɳam/ 'child-for milk required: The child needs milk'. Functionally in such instances it is clitic like (2.4). Moreover, the relative participle of the shape /veeɳʈum/ (note that the future suffix in this case is /-um/, as in other instances) is not uncommon in contemporary Malayalam. In view of these facts /-am/ in /veeɳam/ is not treated as a future suffix in this thesis.

As there is no contrast in vowel grade to be accounted for and as the essential features of the suffix structure in future forms are a nasalized and labialized vocalic articulation closed labially in word final position, the future suffix is represented in phonological formulae as —ə̃ʷ. Regarding the nasality of the vowel articulation in the future suffix, see kymographic evidence pointed out in 8.2.13.

It may also be recorded here that in old Malayalam we have a few

future forms such as /aam, caam, poom/ 'will be', 'will die', 'will go'. In such instances the suffix represented by the transcriptional unit /-m/ combines the components of syllabicity, nasality and labiality and no phonological formula different from the one given above is proposed for it.

PRESENT FORMS

7.5 In most cases the present suffix in contemporary Malayalam has a phonetic form which may be represented in reading transcription as /-unnu/. Phonologically it would be convenient to give this the following formulaic representation: — ∂^{w} N ∂^{w}. N here has the phonetic implications of a long dental nasal.

In my idiolect there are two instances, /aaɳə/ and /pooɳ u/ which are of special interest. Of these the former may be considered an alternative present form of /aa(k)-/ 'to be' functionally equivalent in some usages to /aakunnu/. Note for example /itu puccayaakunnu/ and /itu puuccayaaɳə/, both meaning 'this is (a) cat'. /aakunnu/ in such contexts seems to be restricted more to literary usage whereas /aaɳə/ is abundantly used colloquially and is found to have steadily widening distribution even in the literary dialect. Where /aakunnu/ means 'become' as in /avan neetaavaakunnu/ 'he becomes (the) leader' it is never replaced by /aaɳə/. /pooɳ u/ the present tense form of /poo-/ 'to go' may be treated as the colloquial counterpart of /pookunnu/ which tends to be restricted to literary usage. In the case of /aaɳə/ and /pooɳ u/ the present tense suffix is generalizable as —N ə $^{(w)}$. Phonetically N implies a short retroflex nasal articulation. The final short vowel is in the close range. It is with lip rounding in /pooɳ u/ and usually without lip rounding in /aaɳə/. It is also worthy of mention that in some dialects of Malayalam we have a

considerably wider distribution of this type of present tense suffix, comprising a retroflex nasal, preceding which there may or may not be a vowel in the open front or close front region.

Phonetic forms a. future b. present		Canonical forms of stem	Future suffix — ə̃^{w}	Present suffix —ə^{w} N ə
1 a.	tappum	CVPP—	x	
b.	tappunnu	"		x
2 a.	cimmum	CVNN—	x	
b.	cimmunnu	"		x
3 a.	tallum	CVLL—	x	
b.	tallunnu	"		x
4 a.	pooRum	CV̄L—	x	
b.	pooRunnu	"		x
5 a.	vii ʃ um	CV̄F—	x	
b.	vii ʃ unnu	"		x
6 a.	vii ɽ um	CV̄X—	x	
b.	vii ɽ unnu	"		x

TABLE 7.3

PAST FORMS

7.6.0 The contrast between past and non-past forms of most Malayalam verbs can be formulated by stating different suffixes appropriate to the three different tenses, namely past, present and future. Since the contrast between present and future tenses has been discussed in detail in the previous sections, examples of past forms of some verbs are cited in Table 7.4 setting them against the corresponding future forms only and rules formulated .

Phonetic form f. future p. past	Generalization of st. or st. final	J.E. in non-past forms	future —ə^{w}	Suffixes —I^{y}	Past —Nə^{w}	 —Pə^{w}	 —NPə^{w}	Group labels
f. utakum	VCVC—		x					I
p. utaki	"			x				
f. uutum	V̄C—		x					
p. uuti	"			x				
f. kakkum	CVCC—		x					
p. kakki	"			x				
f. coriyum	CVCI^{y}—		x					IIAi
p. coriɲɲu	"				x			
f. paayum	CV̄A^{y}—		x					
p. paaɲɲu					x			
f. irikkum	VCI^{y}—	—^{y}P—	x					IIAii
p. irunnu	VCI^{w}—				x			
f. piRakkum	CVCA^{w}—	—^{w}P—	x					
p. piRannu	"				x			
f. takarum	CVCVL—		x					IIBi
p. takarnnu	"				x			
f. amaɣum	VCVX-a—		x					
p. amaɣnnu	"				x			
f. tinnum	CVN—		x					
p. tinnu	"				x			
f. aaɣum	V̄X-a—		x					
p. aaŋu	"				x			
f. nilkkum	CVL—	—P—	x					IIBii
p. ninnu	"				x			
f. uɣum	VCI^{w}—		x					IIIAi
p. uɣutu	"					x		
f. veykkum	CV^{y}—	—^{y}P—	x					IIIAii
p. veccu	"					x		
f. okkum	V^{w}—	—^{w}P—	x					
p. ottu	"					x		
f. koyyum	CVX-d—		x					IIIBi
p. koytu	"					x		
f. iʈum	VP-a—		x					
p. iʈʈu	"					x		
f. oorkkum	V̄L—	—P—	x					IIIBii
p. oorttu	"					x		
f. eelkkum	"	—P—	x					
p. eeRRu	"					x		
f. keeɭkkum	CV̄L—	—P—	x					
p. keeʈʈu	"					x		
f. n̪oovum	CV̄k/v—		x					IV
p. no-ntu	"						x	
f. koɭɭum	CVL—		x					
p. koɳʈu	"						x	

TABLE 7.4

7.6.1 The following phonetic forms of the past suffix are to be recognized in contemporary colloquial Malayalam:

/-i, -nnu, -ɳu, -ɲɲu, -tu, -ʈu, -ttu, -ccu, -ntu, -ɳʈu/.

phonologically these can be handled in terms of the following generalizations:

—I^{y}, —N ə^{w}, —P ə^{w}, —NP ə^{w}

7.6.2 An attempt to classify verb stems in Malayalam into different groups and sub-groups depending upon the phonological structure of the past suffixes they take is made below. It might be noted that in a few cases, where there are no absolutely defined phonological conditioning by which stems of clearly separate classes can be differentiated, exceptions to general rules have had to be stated. (See for example 7.6.3).

GROUP I

7.6.3 Stems taking a vocalic suffix for the past

All stems belonging to this group are C final. Among them, all stems having the canonical forms (C) VCVC and most of the heavy syllable final ones take a vocalic past suffix. None of these stems requires a non-syllabic junctional element to be stated before the non-past suffixes.

eg.	(C)VCVC	Heavy syllable final	
	karut-i	uut-i	aɳɳ-i
	utak-i	kaaR-i	kakk-i
		paak-i	ɲeŋŋ-i
		aɲc-i	koocc-i

The rule given just now does leave room for /cuuɣ-/ and some /r/ final stems such as /tiir-/ which are heavy syllable final but take a nasal past suffix. See /cuuɣ nnu/ tiirnnu/. Among those stems taking the vocalic past suffix, however, there are no /ɣ/ finals and only three /r/ finals,

namely those in /uur-i, koor-i/ and /vaar-i/. It would, therefore, be convenient and economical to state that all /ɣ / final and /r/ final stems except /uuɾ-, koor-/ and /vaar-/ take a nasal past suffix. This statement would then account for instances such as /cuuɣ-nnu, amaɣ-nnu, uur-nnu, takar-nnu/.

GROUP II

Stems taking a nasal suffix for the past

7.6.4 Depending on whether or not there are derivationally related —p^{g}— forms, some of the forms cited below (eg. /aŋaɲɲu/ an intransitive past form, from which the corresponding transitive past form /aŋ accu/ can be derived) can be treated as involving —NP-lax— forms and some others (eg. /paaɲɲu/ corresponding to which there is no grammatically related form */paaccu/) as involving terms in an —NN— system (see 3.17). The focus of attention at this stage of the investigation being inter-relations of stems and different forms of the past suffix, forms cited here have not been differentiated on these lines.

(A) Non-C final stems

These are stems for which an I unit or an A unit is stated finally.

(i) Those which require no junctional element to be stated before non-past suffixes. These are y-prosodic stems.

—I^{y} final stems	—A^{y} final stems
aŋi-ɲɲu	aŋa-ɲɲu
cori-ɲɲu	paa-ɲɲu

(ii) Those which require a plosive junctional element to be stated before non-past suffixes. These are w-prosodic stems.

—I^W final stem	—A^W final stem
iru-nnu	piRannu
	ampara-nnu

(B) C final stems

(i) Those requiring no junctional element before non-past suffixes.

(1) C' final (i.e. Constant-C final) mono- or disyllabic stems for which an apical flapped liquid or a retroflex continuant is stated finally.

eg. uur-nnu takar-nnu

cuuɽ-nnu amaɽ-nnu

(2) C_z final (i.e. Variable-C final) mono- or disyllabic stems for which an apical liquid or an apical nasal is stated finally.

eg. tar- > tannu cel- cennu

vaɻ ar- > vaɻarnnu tin- > tinnu

(3) C_z final stems of the following canonical form: (C)$\overline{V}$X-a, that is to say, monosyllabic stems which are retroflex continuant final.

eg. aaɽ- > aaɳu

taaɽ- > taaɳu

(ii) Those requiring a junctional element before non-past suffixes.

There is, in fact, only one verb stem belonging to this sub group: /nil-/. It is a C_z final monosyllabic stem for which an apical lateral liquid is stated finally.

cf. past form: /ninnu/; future: /nilkkum/.

GROUP III

7.6.5 Stems taking a plosive suffix for the past

(A) Non-C final stems

(i) Those requiring no junctional element before non-past suffixes. These are w-prosodic disyllabic stems for which an I unit is stated finally.

eg. u ɾ u-tu

poru-tu

(ii) Those requiring a plosive junctional element before non-past suffixes. These are I -, E - or A - final stems which may be y-prosodic or w-prosodic. The selection of the particular plosive suffix is conditioned by the prosodic structure of the stem (final) syllable.

—V^y final stems		—V^w final stems	
kuti-ccu	daahi-ccu	kuru-ttu	puu-ttu
ve-ccu	ee-ccu	o-ttu	
ta-ccu	vaa-ccu	kana-ttu	kaa-ttu

It may be recorded here that almost all marginal verb stems in Malayalam are $ə^y$ final ones assigned to this group, namely IIIAii. They all take /-ccu/ for the past. /bhayannu/ and /vilasi/ which are past forms

derived from the marginal stems /bhaya-/ and /vilas-/ are two obvious exceptions to this general statement. The prosodic structure of /bhaya-/ and the canonical form of /vilas-/, however, can be found to condition the selection of the past suffixes in these cases.

(B) C final stems

(i) Those requiring no junctional element before non-past suffixes.

(1) Dorsal continuant final stems:

eg. ey-tu ney-tu

pey-tu koy-tu

(2) C' final monosyllabic stems for which a retroflex plosive or nasal is stated finally.

eg. iṭ- > iṭṭu uṇ- > uṇṭu

keṭ- > keṭṭu puuṇ- > puuṇṭu

(ii) Those requiring a plosive junctional element before non-past suffixes.

(1) C' final mono- or disyllabic stems for which an apical flapped liquid is stated finally.

eg. oor-ttu

etir-ttu

(2) C_z final monosyllabic stems for which an apical lateral liquid is stated finally.

eg. eel- > eeRRu

vil- > viRRu

(3) C_z final monosyllabic stems for which a retroflex liquid is stated finally.

eg. ka ഴ- > kaṭṭu

kee ഴ - > keeṭṭu

GROUP IV

7.6.6 Stems taking a past suffix which involve a nasal plus homorganic plosive cluster.

There are only very few stems belonging to this group and they are all C_z final. None of them requires a junctional element to be stated before the non-past suffixes.

(1) Stems of the following canonical form:

$C\bar{V}k/v$—

eg. nook/v- > no-ntu

veek/v- > ve-ntu

As regards the variability of stem-final C in the examples cited above see the following future and present forms derivable from these verb stems: /noov-um ∿ nook-um; noov-unnu ∿ nook-unnu; veev-um ∿ veek-um; veev-unnu ∿ veek-unnu/ It may also be noted that there are only two verb stems taking a past suffix of the phonetic shape /-ntu/ in contemporary Malayalam.[3]

---

3. It might be of special interest to linguists exploring the possibilities of formulating a grammatical dating method for Malayalam that this number of members of this particular sub group has remained constant in the language from the period of "Krishnagatha", that is, 15th century A.D.

(2) C_z final mono- or disyllabic stem for which a retroflex liquid is stated finally:

eg. ko ɭ- > koɳʈu

pura ɭ- > puraɳʈu

Strictly speaking, /-ɳʈ-/ in these forms are to be handled in terms of different types of phonological abstraction. /puraɳʈu/ being derivationally related to /puraʈʈi/ involves an —NP-lax— form whereas /kaɳʈu/ having no such form related to it involves a term in an —NP— system in regard to which tense-lax contrast is not functional.

As has already been pointed out in 7.6.4 such a differentiation of forms cited here has not been found more profitable than the present statement in bringing out inter-relations of stem and suffix in past forms like these.

PHONETIC IMPLICATIONS OF THE PROPOSED GENERALIZATIONS FOR PAST SUFFIXES

I. The vocalic past suffix

7.6.7 The phonetic implications of the past suffix generalized as —I^y in 7.6.1 include, in all finite past verbal forms a close front vowel with spread lips.

eg. uut-i

II. The consonantal past suffixes

7.6.8 The following three generalizations are to be discussed under this heading:

—N ə^w, —P ə^w, —NP ə^w

The consonantal elements in none of these involve a labial articulation. In all finite past forms these consonantal elements are followed by a close back vocalic articulation with rounded lips.

(1) $\underline{\text{—N ə}^{w}}$

7.6.9 The consonantal element in this case implies a nasal articulation which may be of one of the following three types:

(a) retroflex

(b) dental and

(c) palatal

Of these the retroflex articulation is short in contemporary Malayalam[4] whereas the non-retroflex articulations are long. The choice among these three types of nasal articulations is conditioned by the prosodic and/or phonematic structure of the verb stem. Thus

(a) the retroflex articulation is chosen after C_z final stems for which a retroflex continuant is stated finally.

eg. viiɣ- > viiɳu

(b) The dental articulation is chosen after the following types of stem:

(i) Non-retroflex C final.

eg. takar-nnu

cel- > cennu

(ii) C' final stems for which a retroflex continuant is stated finally.

eg. cuuɣ -nnu[5]

4. Forms like /viiɳɳu/ in which the retroflex articulation is long and which correspond to present day forms such as /viiɳu/ are attested in old texts. See the index of "Krishnagatha" in Nayar 1965.

5. This pattern of conditioning of the phonetic implications of —N ə ^{w} is

continued on following page

(iii) w-prosodic non-C final stems.

eg. iru-nnu

naṯa-nnu

(c) The palatal articulation is chosen after y-prosodic non-C final stems.

eg. aɳi-ɲɲu

paa-ɲɲu

(2) —P^{w}

7.6.10 The consonantal element in this case implies a plosive articulation, of which there are four types:

(a) retroflex

(b) alveolar

(c) dental and

(d) palatal

After stems assigned to groups III Ai and III Bi (see 7.6.5) and after nasal final stems, this plosive articulation is voiced and short:

	example
III Ai stem	uɣu-tu
III Bi stem	ey-tu
N final stem	uɳ-ṯu

After other stems it is voiceless and long:

eg. etir-ttu, eeRRu, keeṯṯu

The choice among the four types of plosive articulation is characterized by the prosodic and/or phonematic structure of the stem. Thus

---

footnote 5 continued from previous page
further attested by a common dialectal variant of /viiɳu/, namely /viɣ nnu/ which is to be distinguished from the corresponding present tense form /viiɣ unnu/.

(a) the retroflex articulation is chosen after stems for which C units implying retroflexion are stated finally.

eg. puuɳ- ʈu

keeɻ- > keeʈʈu

(b) The alveolar articulation is chosen after stems for which a C-unit implying an alveolar lateral articulation is stated finally.

eg. eel- > eeRRu

(c) The dental articulation is chosen after the following types of stem:

(i) C' final stems for which an apical flapped liquid is stated finally.

eg. oor-ttu

(ii) w-prosodic non-C final stems

eg. aʈu-ttu

o-ttu

kana-ttu

(d) The palatal articulation is chosen after y-prosodic non-C final stems.

eg. kuti-ccu

ve-ccu

ta-ccu

(3) —NP ə^{w}

7.6.11 The consonantal elements in this case imply a homorganic nasal plus plosive cluster which may be either retroflex or dental.

The retroflex articulation is chosen after C_z final stems for which a retroflex liquid is stated finally:

eg. koɻ- > koɳʈu

The dental articulation is chosen after stems for which a variable C implying /k/ ~ /v/ is stated finally.

eg. veek/v- > ventu

OPTATIVE FORMS

7.7 The following two types of phonetic form are to be discussed in handling the suffix structure of optative forms commonly occurring in contemporary Malayalam:

(i) Monosyllabic ones:

-a, -ka, -tte

(ii) Disyllabic ones:

-uka, -ika, -atte

Of these /-a, -ka, -uka/ and /-ika/ may be given the following formulaic expression:

$$-((\ \text{ə}^{w/y})\text{P})\text{ə}$$

Here the suffix-initial $\text{ə}^{w/y}$ has usually the phonetic implication of a close back vocalic articulation with lip rounding. After the following /r/ final stems of II Bi2 (see 7.6.4) this may freely vary with a close front articulation accompanied by spread lips: /var-, tar-, poor-/. The consonantal element implies a short lax voiced weakly fricative velar articulation [ɣ]. The final ə implies a short vocalic articulation somewhere in the mid central region.

eg. uut-uka

var-uka ~ var-ika

tar-uka ~ tar-ika

poor-uka ~ poor-ika

/-tte/ and /-atte/ may be expressed in phonological formulae

as follows: —(ə)PPə^{y}. Here the optional ə implies a short vocalic articulation somewhere in the mid central region. The consonantal element implies a long voiceless tense retroflex plosive articulation and ə ^{y} a mid front vocalic articulation with spread lips.

Of the monosyllabic forms /-a/ and /-ṭṭe/ occur mostly in fast colloquial, after C_z final verb stems for which /k/ alternating with /v/ is stated finally (cf. /pook-um ∽ poov-um/) or for which $\overline{V}$ final alternants have to be stated.

eg. aak-a aa-ṭṭe[6]

pook-a poo-ṭṭ e

/-a/ occurs also after non-syllabic junctional element stated between some verb stems and suffixes.

eg. cirikk-a

oorkk-a

The occurrence of the disyllabic forms is conditioned as follows:

(1) After C final stems:

eg. uut-uka ∽ uut-aṭṭe

(2) After non-C final stems for which a V unit (short) is stated finally:

eg. kariy-uka ∽ kariy-aṭṭe

After some of the stems assigned to group II Ai (see 7.6.4), /-uka/ is in free variation with monosyllabic /-ka/.

eg. aRiy-uka ∽ aRi-ka

paRay-uka ∽ paRa-ka

---

6. /aaṭṭe/ and /pooṭṭe/ occur much more frequently in my idiolect than forms like /aak-uka, aav-uka, aak-aṭṭe, aav-aṭṭe; pook-uka, poov-uka, pook-aṭṭe, poov-aṭṭe/ which tend to be more commonly used in literary styles.

(3) After non-syllabic junctional elements stated between some verb-stems (see Table 7.4 in section 7.6) and suffixes.

eg.	cirikk-uka	cirikk-aṯṯe
	oorkk-uka	oorkk-aṯṯe
	viiɣtt-uka	viiɣtt-aṯṯe

IMPERATIVE FORMS

(A) SINGULAR

7.8 The phonetic form of the suffix to be stated in discussing imperative singular forms in Malayalam can be transcribed as /-uu/. This is always a word final suffix occurring after the appropriate junction systems:

uut-uu	tinn-uu
karay-uu	cirikk-uu

The vocalic articulation statable for this suffix may be of different degrees of length ranging from very long to short. This being a matter of phonetic interest only, has not been given expression in the following phonological formula proposed for this suffix: $\overline{\text{I}}^{\text{W}}$. Phonetically this implies a long or short close back vowel accompanied by lip rounding.

Uninflected verb stems

Mention must be made, in this connection, of the usual occurrence of uninflected verb stems functioning as imperative forms. No suffix structure need be stated in handling such forms. It will, however, be of interest to note the way in which each type of verb stem functions as imperative forms in the language:

C final and short non-C final stems

As regards C final stems a short central mid or close back vocalic articulation without lip rounding occurs as a syllabic release vowel after

the stem final consonant in the absolute final position. In regard to short non-C final stems the syllabic release vowel occurs after the appropriate junctional systems.

C final		Short non-C final	
uutə	$\bar{V}C$ ə =//	karayə	—CV^{y}ə =//
tirukə	—VC ə =//	cirikkə	—CV^{y}Pə=//
tinnə	—VCCə=//	udikkə	VC ə^{y}Pə//

In junction with C initial words the release vowel is maintained and usually accompanied by lip rounding

eg.	uutu goopii	—C ə^{w}C—
	tinnu goopii	—CC ə^{w}C—
	karayu goopii	—CV^{y}ə^{w}C—
	cirikku goopii	—CV^{y}P ə^{w}C—
	uuhikku goopii	$\bar{V}$C ə^{y}P ə^{w}C—

In junction with non-C initial words this vowel is elided.

eg.	uutammuu	—$\bar{V}$C ≠ V—
	tinnammuu	—VCC ≠ V—
	cirikkammuu	—CVP^{y} ≠ V—
	uuhikkammuu	$\bar{V}$C ə^{y}P ≠ V—

Sequences such as */karayammuu/ do not usually occur in Malayalam.

V final stems

In the three instances cited below just the verb stem without the addition of any suffix, junctional element or syllabic vowel functions as the imperative form: /taa, vaa, poo/. it may be noted that all these monosyllabic imperative forms are either forms of invariably heavy verb stems (eg. poo) or heavy forms of those verb stems that have variable syllable quantity (eg. /taa, vaa/).

(B) PLURAL

7·9 In instances like /uut-in, var-in, nilkk-in/ the only phonetic form of the imperative plural suffix /-in/ may be given the following formulaic expression: —ə^{y}N. Suffix-initially a short close front vowel occurs in this case and the final nasal is short, apical and palatalized

involving invariably an alveolar articulation.

One type of verbal form functioning as negative imperative is illustrated in 7.12.1 just after the phonological treatment of the negative suffix. In polite imperative forms and one type of verbal form which are functionally neutral in regard to politeness or impoliteness the imperative suffixes occur only after the past tense suffixes. Because of this, it is proposed to discuss them only with other suffixes which also occur in this position (7.17; 7.18).

VERBAL PARTICIPLE$_1$

7.10 /-e/ is the only phonetic form of the suffix to be accounted for in this case. Potentially this can occur after almost any verb stem or in the case of those verb stems taking a junctional element before non-past suffixes, after such a junctional element (For restrictions on the distribution of this suffix see 2.18.2).

eg.	kuu ɽ-e	'while increasing'
	kariy-e	'while being burnt'
	cirikk-e	'while laughing'
	kaaŋk-eṉ kaaŋ-e	'while seeing'

This suffix can be represented in phonological formulae as —ə^{y}, the phonetic implications of this including a vocalic articulation in the mid front region. As has been stated in regard to the imperative singular suffix, depending upon factors like dialect or style, this vocalic articulation may be of varying degrees of length. But as this is a matter of phonetic interest only, this has not been given expression in the phonological formula.

A special feature of duplicate occurrences of the same verbal participle$_1$ form may also be pointed out in this connection: In instances like /kuuɽakkuuɽe/ and /kaaɳakkaaɳe/ the phonetic implications of — ^{y} stated for the first occurrence include a vocalic articulation somewhere in the mid central region. It is also important to note that the external junction involved is characteristically g-prosodic.

PURPOSIVE INFINITIVE FORMS

7.11 The only phonetic form of the purposive infinitive suffix to be handled is /-aan/ which may be given the formulaic expression — $\overline{\partial}\,\mathrm{N}^{y}$.

eg.	uut-aan	'to blow'
	kariy-aan	'to burn'
	cirikk-aan	'to laugh'

The vocalic articulation in the suffix-syllable of such forms is always long and in the open region. The implications of the consonantal element include a nasal articulation which is mostly in the alveolar region, but may, in fast colloquial be homorganic with the plosive articulation that immediately follows the purposive infinitive form.

eg.	uutaampooyi	'went to blow'
	tinnaantannu	'gave to eat'
	tallaaɲcennu	'went to beat'
	kakkaaŋkeeRi	'entered to steal'

While in junction with C initial words beginning in non-plosive consonants, the alveolar quality of the suffix final nasal is retained:

cf.	tallaanvarum	'will come to beat'
	tallaanmooham	'wish to beat'

It may be noted that although the nasal articulation of the purposive infinitive suffix can be bilabial when occurring before a bilabial plosive, the contrast of this suffix with the future suffix /-um/, which is phonologically expressed as — ə̃ ʷ is never nullified since the ə in the former case is always long while that in the latter short.

NEGATIVE

7.12.0 It has already been noted in the chapter entitled "Grammatical Outline" that the negative suffix can occur in the following two different places of structure:

(1) In word final position

eg.	veeɳʈ-aa	'not needed'
	kuuʈ-aa	'not fit'

(2) In word medial position

eg.	veeɳʈ-aa-te	'without requiring'
	veeɳʈ-aa-tta	'that which is not required'
	veeɳʈ-aa-ɲɲa	'that which was not required'
	pooraayka ~ pooraayma	'unsuitability'

As in the case of many other long vowel final forms /veeɳʈ-aa/ and /kuuʈ-aa/ also have phonetic alternants ending in a vocalic articulation which is considerably shorter. The medial /-aa-/ in forms like /veeɳʈ-aa-te/ is always a phonetically long articulation. In forms like /pooraayka/ and /pooraayma/ also it is long. The syllable involving the negative suffix is y-prosodic in most types of negative verbal form. Only in negative verbal participle, negative imperative and negative non-past relative participle forms it is not so. The following formulaic expressions are, therefore,

proposed for the negative suffix in the language:

(1) — $\overline{\text{ə}}^{y}$

(2) — $\overline{\text{ə}}^{y}$_

(3) — $\overline{\text{ə}}^{y}$ —

The vowel implied in all the three cases in an open one.

NEGATIVE IMPERATIVE

7.12.1 Forms ending in /-aate/ (eg. /paRay-aate/ 'please do not say', /pook-aate/ 'please do not go') sometimes occur in Malayalam in sentence-final position as negative imperative predicate. They are homophonous with negative verbal participle forms derived from the same verb stems, but are clearly distinguishable from them since the verbal participle is always non-final whereas imperative is final in the piece.

Imperative

appuu karayaate 'Appu, do not cry'

Verbal participle

appu karayaate pooyi 'Appu went without crying'

STRUCTURES OF SUFFIXES STATABLE ONLY

AFTER OTHER SUFFIXES

7.13 Forms belonging to the following grammatical categories are to be discussed in this section: Relative participle, Verbal participle$_2$, Conditional and Polite imperative.

RELATIVE PARTICIPLE

7.14.0 It has been noted (2.19) that depending upon the presence or absence of a negative suffix, relative participle forms in Malayalam may be either negative or positive. Table 7.5 lists some examples of both positive and negative relative participle forms and indicates the order of structural

elements to be stated in each case.

Phonetic forms 1-3 positive; 1a-3a negative	Vb. st.	Tense suffixes p.	pr.	f.	Neg. S.	J.E.	R.P. S.
1. uutiya	x	x					x
2. uutunna	x		x				x
1a. uutaaɲɲa	x				x	—N—	x
2a. uutaatta	x				x	—P—	x
3. uutum	x			x			
3a. —							

TABLE 7.5

POSITIVE RELATIVE PARTICIPLE FORMS

7.14.1 /uutiya/ and /uutunna/ are structurally the same, in as much as in both of them the verb stem is followed by a tense suffix (past tense in the former and present in the latter) that precedes the word-final relative participle suffix.

/uutum/ in /uutumkaaRRə/ '(the) wind which blows or will blow' is functionally equivalent to /uutiya/ and /uutunna/ which can also immediately precede /kaaRRə/ and has, therefore, to be regarded as a relative participle form in its own right. But no relative participle suffix need be stated after the tense suffix in this case (see also 2.18.4).

NEGATIVE RELATIVE PARTICIPLE FORMS

7.14.2 In /uutaaɲɲa/ and /uutaatta/, apart from the verb stem, the negative suffix, the junctional element and the relative participle suffix are also statable. Forms which involve a nasal junctional element (see 6.3.4) refer to an action in the past. eg. /uutaa-ɲɲ-a, varaa-ɲɲ-a/.

Those involving a plosive junctional element refer to an action which is non-past, embracing both the present and the future tenses. eg. /uutaa-tt-a, varaa-tt-a/.

Negative relative participle forms referring to an action in the future and corresponding to positive forms like /uutum/ are not current in contemporary colloquial Malayalam.

7.14.3 The relative participle suffix occurring word finally in both positive and negative forms can be given the following formulaic expression: — ↄ. Phonetically its implications include a short vocalic articulation somewhere between the half-open and open central regions.

RELATIVE PARTICIPLE BASE

7.14.4 A passing mention at least of certain verbal forms in Malayalam assigned to the grammatical category called "Relative participle base" (2.10.4) has to be made at this point. Collocations like /eritii/ 'the fire which burned or burns or will burn' and /cu⌈ukaappi/ 'the coffee which was, or is or will be hot' illustrate colligational relations between relative participle base and Noun. Functionally a relative participle base form resembles the corresponding relative participle to a great extent. Although phonologically no suffix need be stated to account for the relative participle base forms the inter-relations between a relative participle base form and a nominal form which follows it immediately can be clearly brought out by stating the relevant junctional features.

EXTERNAL JUNCTION INVOLVING

RELATIVE PARTICIPLE FORMS AND

OTHER GRAMMATICAL

ELEMENTS

7.14.5 The elements which immediately follow relative participle forms

in connected speech are nominal forms including forms assigned to all sub-categories of noun such as pronoun. The inter-relations of relative participle forms and nominal forms are best stated by specifying the systems of phonematic units statable initially for the latter.

(A) Relative participle suffix final forms
+ C initial nominal forms

7.14.6 The junction is characteristically ɡ-prosodic in this case. As the opposition between g and ɡ is most relevant to the plosive system in the language all the examples cited have plosive initial nominal forms.

— ə + P — > ə ɡ P

eg.	(1a)	vanna payyan	'(the) boy who came'
	(1b)	varunna payyan	'(the) boy who comes'
	(2a)	taaɳa tala	'(the) head which bowed down'
	(2b)	taaɽunna tala	'(the) head which bows down'
	(3a)	koʈʈiya ceɳʈa	'(the) drum which (somebody) beat'
	(3b)	koʈʈunna ceɳʈa	'(the) drum which (somebody) beats'
	(4a)	uutiya kaaRRə	'(the) wind which blew'
	(4b)	uutunna kaaRRə	'(the) wind which blows'

In contrast with this, the junction between plosive initial nominal forms and grammatical elements other than relative participle forms preceding such nominal forms is g-prosodic. The noun initial plosive articulation is long tense and voiceless in this case

[—ə / —V]@ + P— > [—ə / —V] g PP

eg.	ciittappuucca	'bad cat'
	ciittattala	'bad head'
	ciittacceʈʈa	'bad drum'
	ciittakkaaRRə	'bad wind'

@ This bracket indicates that the order of items enclosed is to be kept constant on both sides of the arrow.

aanappantal	'elephant shed'
aanattala	'elephant head'
kutiraccaaṭṭa	'horse whip'
aanakkompə	'elephant tusk'

For spectrographic evidence that help correlate the stating of contrastive junctional prosodies in different types of construction discussed above, see spectrograms 4 and 5 included in section 8.4.

(B) Relative participle suffix final forms + V initial nominal forms

7.14.7 The junction in this case in characterized by a momentary break in the articulation or the presence of a glottal stop in between the two vocalic articulations.

eg.	vanna indira	'Indira who came'
	vanna iicca	'(the) fly which came'
	vanna eruma	'(the) buffalo which came'
	tanna eettaykka	'(the) banana which was given'
	vanna amma	'(the) mother who came'
	vanna aana	'(the) elephant which came'
	vanna occa	'(the) sound which came'
	vanna oomana	'Omana who came'
	tanna umma	'(the) kiss which was given'
	ninna uuRal	'(the) flow which stopped'

Occurrence of a palatal continuant between the two vocalic articulations involved is also sometimes possible. But most speakers of the language seem to avoid this and have a break in the articulation instead. Traditional grammarians who discuss this point in their section on "Sandhi"

have, in general, prescribed rules against a y-junction in such instances. They have, however, not pointed out the possibility of glottal stop in this position.

The inter-relation of relative participle suffix final forms and /avan/ 'he', the distant demonstrative pronoun, is to be treated specially since, in this case there is a merger of the final and initial vocalic articulations stated for the relative participle and the pronoun respectively.

eg. vanna + avan > vannavan

See spectrogram 6 for the utterances /iṯṯa amma/ and /iṯṯavan/ in section 8.4.

(C) Nasal final relative participle forms
+ C initial nominal forms

7.14.8 If the noun initial C implies a plosive articulation, then the final nasal articulation stated for the relative participle forms will be homorganic with it.

eg. varumpayyan '(the) boy who comes or will come'

taaɣuntala '(the) head which bows down or will bow down'

koṯṯuɲ ceŋṭa '(the) drum which is being or will be beaten'

uutuŋkaaRRə '(the) wind which blows or will blow'

This type of junction is clearly distinguished from the one involving a finite verbal form, ending in future tense suffix. See for example the following utterances:

ammavarum =//= payyan pookum '(The) mother will come; (the) boy will go'.

kaitaaɣum =//= tala poŋŋum '(The) hand will drop; (the) head will rise'

_niikoṯṯum =//= ceŋṯa poṯṯum 'You will beat; (the) drum will break'.

avanuutum =//= kaaRRu nilkkum 'He will blow; (the) wind will stop'.

Note that there is a break of articulation in between the two sentences in each case. The final nasal articulation in the finite verbal forms in the first sentence in each pair is bilabial, whatever be the C stated initially for the nominal form that begins the following sentence.

See 8.3.1 where two pairs of mingograms supporting the above statements are discussed.

(D) Nasal final relative participle forms + V initial nominal forms

.14.9 The vocalic articulation of all V initial nominal forms, including the distant demonstrative pronoun, immediately follow the nasal articulation stated finally for such relative participle forms, there being no break of articulation in between them.

eg. varumamma '(the) mother who comes or will come'

varumavan 'he who comes or will come'

Finite verbal forms ending in future suffix usually occur only sentence finally. Even if such finite verbal forms are closely followed by norminal forms which begin fresh sentences, there will be a break of articulation in between the two forms. Moreover, the pattern of intonation of such sequences of sentences will be different from those for a relative participle plus noun construction. Thus the finite verbal forms are always distinguished from the relative participle forms.

VERBAL PARTICIPLE$_2$

.15.0 Like the relative participle forms, forms that are labelled Verbal

participle$_2$ can also be negative or positive depending on whether or not a negative suffix is statable for the form in question.

Thus the verbal participle forms underlined in /ciriccirunnu/ 'having laughed remained' and /uutippooyi/ 'having blown went' are positive whereas those in /cirikkaatirunnu/ 'remained without laughing' and /uutaatepooyi/ 'went without blowing' negative. The positive forms are further characterized by the past suffix statable for them.

There is no verbal participle suffix statable for the positive forms. But the inter-relations of such forms and the verbal forms that can immediately follow them are characteristic of them. They will be discussed in detail shortly (7.15.2).

NEGATIVE VERBAL PARTICIPLE

7.15.1 As regards the negative forms the verbal participle suffix statable can be given the following formulaic expression: — ə^y. Phonetically, the suffix syllable involves a short mid central vocalic articulation when the participial form occurs immediately before a C initial verbal form.

The junction in all such instances is ∮-prosodic and implies laxness of any plosive involved.

eg. uutaatepooyi 'went without blowing'

uutaateka ɳʈu 'saw without blowing'

paRayaatecennu 'went without telling'

In clear cut contrast with this the junction between an object noun and a verbal form is g-prosodic and implies tenseness of any P involved.

eg. avaneppaRRi 'joined to him: about him'

ennekka ɳʈu 'saw me'

Junction of this type being outside the scope of the present study is not

discussed in any more detail. See, however, spectrogram 7 in section 8.4 for /oo‿ aate kaŋ‿u/ and /ennekkaŋ‿u/.

As regards external junction involving negative verbal participle forms and V initial words see the instances /uutaateyalla/ and /uutaatirunnu/ discussed in 6.8.1.

POSITIVE VERBAL PARTICIPLE$_2$
+ OTHER GRAMMATICAL ELEMENTS

7.15.2 It is now proposed to examine the inter-relations of positive verbal participle forms with other grammatical elements that follow them immediately.

Finite verbal forms ending in past tense suffixes resemble positive forms of verbal participle only if both these types of form are taken out of their grammatical and phonological contexts - and this will never be done in an analysis like this, based on the principles of prosodic phonology. Finite verbal forms are mostly sentence final whereas verbal participle forms never occur sentence finally. The discussion based on the examples cited in Table 7.6 is intended to show that, even if, in connected speech, the finite verbal forms occur closely followed by other verbal forms, they are easily distinguished from the corresponding positive verbal participle forms which colligate with other verbal forms that immediately follow them.

V.P. + Finite Vb.		Sequence of finite verbs	
1a.	ciriccirunnu	1b.	ciriccu irunnu
2a.	ciriccupooyi	2b.	ciriccu pooyi
3a.	paa‿iyirunnu	3b.	paa‿i irunnu
4a.	paa‿ippooyi	4b.	paa‿i pooyi

TABLE 7.6

Prior to mentioning the differences between the members of each pair of examples given in Table 7.6, generally it may be recorded that the examples 1b——4b are characterized by the presence of a break of articulation between the two finite verbal forms in each case, whereas the characteristic feature of 1a——4a is the absence of such a break of articulation between the verbal participle and the finite verbal forms in each instance.

At this point, it may be recalled that the finite as well as participial verbal forms may end in either of the following structural elements:

(i) —ə^{w} stated as part of the consonantal past suffixes and implying a close back vocalic articulation with rounded lips.

(ii) the vocalic past suffix expressed as —I^{y} and implying a close front vocalic articulation with spread lips.[7]

The verbal forms that can be in junction with a verbal participial form may be V initial or C initial. The junction under discussion may, therefore, involve inter-relation of one of the following types:

1. —— ə^{w} + V—
2. —— ə^{w} + C—
3. —— I^{y} + V—
4. —— I^{y} + C—

---

7. Exceptionally, in some occurrences of the verbal participle forms derived from the verb stems /aa-/ and /poo-/, only a palatal continuant articulation is implied.
   eg. poypooyi ; poykkuu ţaa
   nannaayvarum

7.15.3 Examples 1a and 1b in Table 7.6 illustrate inter-relations of the first type. The presence of the syllabic vowel is a mark of finality and naturally it is retained in the succession of finite verbal forms (1b). It is not retained in the corresponding verbal participle plus finite verb construction (1a). See spectrogram 8 included in 8.4 for a comparison of the spectrographic effect of the following pair of utterances: /kaŋṭ irunnu/ and /kaŋṭ u irunnu/.

7.15.4 Examples 2a and 2b in Table 7.6 illustrate inter-relations of the second type. Apart from the momentary break of articulation between the finite verbal forms, it may be noted that the verb-initial plosive is more tense in 2b than that in 2a. See spectrogram 9 (in section 8.4) for /kaŋṭ upooyi/ and /kaŋṭ u pooyi/.

7.15.5 Examples (3a) /paaṭ iyirunnu/ and (3b) /paaṭ i irunnu/ in Table 7.6 illustrate inter-relations of the third type, namely —I^{y} + V—. The junction is y-prosodic in verbal participle plus finite verb construction whereas the sequence of two finite verbal forms is characterized by a break of articulation and/or a glottal stop in between the two forms. See spectrogram 10 made for this pair of utterances (8.4).

7.15.6 Examples (4a) /paaṭ ippooyi/ and (4b) /paaṭ i pooyi/ in Table 7.6 illustrate inter-relations of the fourth type mentioned above, namely —I^{y} + C—. The external junction to be stated for the participial construction (4a) is g-prosodic. As there is a break of articulation in between the finite verbal forms no external junction need be stated in regard to 4b. Note that in 4a the verb initial plosive articulation is long tense and voiceless. The initial plosive articulation in /pooyi/ in 4b is short and not as tense as that in 4a. See spectrogram 11 made for

this pair of utterances (8.4).

7.15.7 Attention may be drawn at this stage to an essentially similar type of distinction between relations of external junction in verbal participial constructions and noun plus verb constructions. See for instance the following two pairs of utterances. 1a and 2a are verbal participle plus verb constructions and 1b and 2b noun plus verb constructions. The external junction in 1a and 2a is g-prosodic and that in 1b and 2b ɡ-prosodic.

1.	tu ɭɭiccaaʈi	'having sprung, jumped'
1b.	kaɭɭicaaʈi	'(the)female thief jumped'
2a.	ooʈippooyi	'having run, went'
2b.	goopi pooyi	'Gopi went'

Spectrograms 12 and 13 in section 8.4 facilitate comparison of the spectrographic effect of these pairs of utterances.

CONDITIONAL FORMS

7.16 The conditional suffix, to be stated after the past suffix can be given the following formulaic expression: — $\overline{\text{ə}}$ L. Here the vocalic articulation implied is in the open region and the final consonant is a short alveolar lateral.

eg.	1.	uutiy-aal	'if blew'
	2.	tann-aal	'if gave'
	3.	nont-aal	'if pained'
	4.	vecc-aal	'if placed'

The junction of the vocalic past suffix with the conditional is characterized by y-prosody (eg. 1) and that of the consonantal past suffixes

by the absence of any — ∂^{W} statable after the consonantal elements of the past suffixes (eg. 2-4). As regards external junction involving conditional forms and C or non-C initial words see 6.8.3-4.

POLITE IMPERATIVE FORMS

7.17 Like the conditional suffix the element of structure labelled here as polite imperative suffix[8] also is statable after the past suffix. This suffix can be represented in reading transcription as /-aalum/ and expressed in phonological formulae as — $\overline{\partial}$ L ∂^{W}N. The suffix initial vowel is long and in the open region. For the liquid a short alveolar lateral articulation is stated. The medial vowel is short and in the close back region, with lip rounding. The suffix final consonant is a short bilabial nasal.

eg. uutiy-aalum 'please blow'

vecc-aalum 'please place'

The features of internal junction involving past suffixes and the polite imperative suffix are essentially the same as those stated in the preceding section for the conditional forms. See also 6.7.1-2.

ANOTHER TYPE OF IMPERATIVE

7.18 /vannoo/ alternating in some dialects with /vannee/, and /uutikkoo/ alternating with /uutikkee/ and /uutiyee/ have been pointed out in section 2.17.1 as imperative forms current in colloquial Malayalam, although they are not considered to be polite in myidiolect. The suffix

8. The exceptionally long phonetic shape of this, together with its constant occurrence after forms ending in past tense suffixes do cast some doubt as to whether it can be regarded as a suffix proper or as a word in its own right, derivable probably from the verb stem /aruɭ-/ 'to be pleased' and /-um/ which may be either a clitic (2.4) or the future tense suffix (7.4). Without going into the details of its etymology, /-aalum/ is considered in this thesis, a suffix.

structure in such cases may be expressed in phonological formulae as $— \overline{\text{ə}}^{\,y/w}$. Phonetically the vowel in the suffix syllable of these forms is a long articulation in the mid back or front region.

The forms cited above also illustrate the internal junction involving past suffixes and the imperative suffix under examination. It may be noted that the junctional features are, in essence, the same as those stated in regard to conditional and polite imperative forms (7.16, 7.17).

The forms /uutikkoo/ and /uutikkee/, however, deserve some special comments. The junction between the past and imperative suffixes in these instances is characterized by the presence of a junctional element that can be expressed in phonological formulae as $—\text{P}^{y}—$ and implying a long palatalized dorsal plosive articulation with contact in the back of the hard palate and forward area of the soft palate. Contrary to what might be expected, the dorsal plosive articulation stated for the junctional element preceding a back vowel in /uutikkoo/ is clearly fronted. This can be explained as due to the fact that the ȳ-prosody stated for the immediately preceding vocalic past suffix extends to the junctional element:

$$—\text{I}\,\overset{y}{\text{P}}\,\overset{}{\overline{\text{ə}}}^{\,w}$$

SUFFIX STRUCTURES FOR NOUNS DERIVED FROM VERBS

7.19 Forms belonging to the following two grammatical categories deserve discussion under this heading: (1) Agentive (2) Verbal noun.

AGENTIVE FORMS

7.20.0 The agentive suffix in forms like /kotti/ 'one who pecks', /caaṯi/ 'one who jumps' and /taaŋŋi/ 'one who carries' may be represented

in reading transcription as /-i/. In phonological formulae this may be expressed as —I^{y}. Phonetically the vowel in the suffix syllable of these forms is a short close front articulation with spread lips.

7.20.1 It will be noted here that the formulaic representation and the phonetic implication assigned to the agentive suffix as well as the vocalic past suffix (7.6.7) are identical. This presents us with no real problem because the contrast between the agentive and the past forms is never nullified since only the agentive can occur before case or number suffixes as in instances like /maraŋ kottiyuʈe/ and /maraɲ caaʈikaɻe/. Moreover, there is one positive advantage of proposing identical phonological formulae for these two entirely different elements of structure: This reflects the fact that a vocalic past suffix final verbal form and the uninflected agentive form derivable from the same stem as that of the verbal form are homophonous. In their appropriate context, however, there is no difficulty in distinguishing them.

VERBAL NOUN FORMS

7.21.0 As the salient grammatical features of the category labelled 'Verbal noun' have been pointed out in the second chapter (see 2.20.2), the present section sets out to discuss in detail only the phonological features of the suffix structures in verbal noun forms.

MAJOR METHODS OF VERBAL NOUN DERIVATION

7.21.1 Verbal noun forms are derived in many different ways from corresponding verb stems. The following two are, however, the most productive among them, in the sense that they are applicable to the great majority of instances, irrespective of whether the stems are native or marginal:

(i) Suffixation of /-al/ alternating with /-il/ in predictable environments.

(ii) Suffixation of one of the following alternants: /-a, -ka, -uka, -ika/

Verbal noun forms derived in either of these ways usually refer to an action or a process.

Suffixation of /-al/ or /-il/

7.21.2 The structure of the verbal noun suffix in forms containing /-al/ may be expressed in phonological formulae as —ǝL. Here the vowel is a short mid central articulation in all environments except after a palatal junctional element, in which case it is a short close front articulation. The final L is a term in the lateral sub-system. Phonetically the articulation is a short alveolar lateral.

eg. pooR-al 'scratch'

paacc-il 'race'

The junctional elements statable between the verb stem and this verbal noun suffix are conditioned by the prosodic and/or phonematic structure of the verb stems:

(a) After w-prosodic non-C final stems the junction is characterized by a short labio-dental continuant articulation.

eg. kaa-v-al 'watch'

(b) After y-prosodic non-C final stems a junctional element expressible as —P— and involving a long tense voiceless palatal affricate articulation is to be stated.

eg. piʧi-ccil 'squeezing'

mee-ccil 'grazing'

kara-ccil 'crying'

paa-ccil 'race'

(c) All statements made regarding the presence or absence of a plosive junctional element between certain verb stems and non-past tense suffixes earlier (see 7.6.3-6) hold good in formulating the structure of the junction between those verb stems and the verbal noun suffixes statable after them.

eg. paRa-kk-al 'flight'

koor-kk-al 'stringing together'

cf. the corresponding non-past finite verbal forms derived from the same stems and containing the same type of junctional element:

future	present
paRa-kk-um	paRa-kk-unnu
koor-kk-um	koor-kk-al

(d) After variable-C final stems for which a retroflex plosive is stated finally a junctional element generalized as —ə^{w}ṯ— and involving a short close back vowel followed by a short dental plosive occurs.

eg. kuuṯ-ut-al 'joining'

viṯ-ut-al 'release'

Suffixation of /-a, -ka, -uka/ or /-ika/

7.21.3 Verbal noun forms derived from verb stems by suffixation of /-a, -ka, -uka/ or /-ika/ are homophonous with the corresponding optative

forms and, therefore, the formulaic expression and phonetic implication specified for the suffix structure are exactly the same as for the optative forms (see 7.7):

$$-((\ \text{ə}^{w/y})\text{P})\text{ə}$$

	— ^{w}P		— ^{y}P	
eg.	var-uka	∽	var-ika	'coming'
	tar-uka	∽	tar-ika	'giving'
	poor-uka	∽	poor-ika	'coming'

— ə

aak-uka ∽	aav-uka	∽	aak-a	'being/becoming'
pook-uka ∽	poov-uka	∽	pook-a	'going'
	uut-uka		-	'blowing'
	ciri-kk-uka	∽	ciri-kk-a	'laughing'
	oor-kk-uka	∽	oor-kk-a	'remembering

—P ə

	aRiy-uka	∽	aRiy-a ∽ aRi-ka	'knowing'
	ceyy-uka	∽	ceyy-a ∽ cey-ka	'doing'

CONTRAST BETWEEN HOMOPHONOUS VERBAL NOUN AND OPTATIVE FORMS

7.21.4 The contrast between the homophonous optative and verbal noun forms is maintained by the difference in syntactic positions where they occur.

eg. 1. kuṭṭii nannaay varika 'Child, let good come'

2. vaiki varika nannalla 'coming late is not good'.

/varika/ in 1 occurs in the position of and functions as predicate; that in 2 occurs in the position of and functions as the subject. /varika/

in 1 is, therefore, an optative form whereas that in 2 a verbal noun form.

VERBAL NOUN PLUS AUXILIARY VERB - SEQUENCES

7.21.5 Sequences of verbal forms like the following, commonly occurring in colloquial Malayalam reveal some characteristic features of verbal forms for which a verbal noun suffix of the shape /-a/ is stated:

(a) pookaam < pooka + aam

(b) pookaɳam < pooka + -ɳam < veeɳam

(c) pookallee < pooka + ollaa + -ee

Verbal noun forms, of which the suffix has the shape /-a/ and derivable from most verb stems occur in Malayalam. As these occur immediately before one of the auxiliary verbal forms /aam, -ɳam/ and /ollaa/ (to this usually a clitic /-ee/ is added), the resulting compounds contribute to the meaning of the utterance in which they occur in various ways.

(a) Compounds ending in /-aam/[9] seem to express permission or consent.

eg. /ninakku pookaam/ 'for you going is possible: you may go'.

/ɲaan pookaam/ 'I - going is possible: I shall go'.

(b) Compounds ending in /-ɳam/[10] have different connotations

---

9. /aam/ is attested in many old Malayalam texts as the future form derived from the verb stem /aa(k/v)-/ 'to be'. In present day colloquial Malayalam the function of it is auxiliary as in the examples cited.

10. Historically /-ɳam/ is derived from /veeɳam/ which means 'is or will be needed'. /pooka veeɳam/ and /pookeeɳam/ attested in texts and /pookaɳam/ and /pooɳam/ occurring usually in slow and fast colloquial respectively are all fuctionally equivalent. Synchronically also, one can recognize /-ɳam/ as a non-suffix element in present day Malayalam due to the occurrence of a retroflex articulation in it which is quite uncommon in the suffix structure of the language. (See, however, the

continued on following page

in different dialects. Generally in North Travancore they seem to mean 'must'

eg. /nii varaŋam/ 'You (sg.) must come'

But in South Travancore they function as the most popular polite imperative forms:

eg. /varaŋam, irikkaŋam/ 'Please come, please sit down'.

(c) Compounds ending in /-allee/[11] imply a prohibitory request:

eg. /aŋŋane paRayallee/ 'Please do not say so'.

MINOR METHODS OF VERBAL NOUN DERIVATION

7.22.0 Having examined in detail both the major methods of verbal noun derivation, it is now proposed to take into account some less productive ways also of deriving verbal noun forms from the corresponding verb stems. These, in their turn, can be brought under the following two heads:

(i) Suffixation

(ii) Use of uninflected verb stem

---

footnote 10 continued from previous page:
present forms /aaŋə, pooŋu/ and the past form /taaŋu/ discussed elsewhere in this thesis: 7.5; 7.6.4).

11. /ollaa, ollaaŋŋu, ollaatu/ and /ollaata/ all derivable from the stem /ol-/ which has a prohibitive connotation are attested in texts like Krishnagatha (see index of this text in Nayar 1965). In contemporary colloquial Malayalam the form derivable from /ol-/ begins in a short mid central vowel. /-ee/ is a clitic implying 'request' as in /tuŋaykeeŋ amee/ 'protection is desired - humbly: please protect'.

Generally these are applicable only to native verbal noun forms. Derivation of marginal verbal noun forms is briefly discussed separately later (7.24).

In regard to suffixation the following seven phonetic forms have to be handled: /-am, -a, -ca, -ma, -və , -vi, -i/.

(a) Suffixation of /-am/

7.22.1 The first of the phonetic forms of the verbal noun suffix may be expressed in phonological formulae as —ə N. Phonetically this implies a short nasalized mid central vowel closed by a short nasal which is either bilabial or homorganic with the plosive articulation stated initially for the immediately following word.

—ə N is stated after the following types of verb stem:

(1) Constant CC final stems ending in a retroflex nasal or liquid.

eg. eɳɳ-am 'count'

kaɭɭ-am 'lie'

(2) Variable C final stems ending in an apical plosive.

eg. eeR- > eeRRam 'rise'

kuu - > kuuṭṭam 'group'

(3) NP-lax-final stems

eg. poɳɲ- > pokkam 'height'

uRaɲɲ- > uRakkam 'sleep'

Note that the internal junction involved as regards instances cited in (2) and (3) is g-prosodic. Spectrogram 14 for /eeRum - eeRRam/ and 15 for /poɳɲum - pokkam/ provide a means of correlating spectrographic findings with the stating of junctional prosodies in the verbal forms under examination (see 8.4).

(4) Non-C final stems. The internal junction in this case is characterized by the presence of a plosive junctional element (see 6.3.2).

eg. iru-tt-am 'posture'

ṉaṯa-tt-am 'walk'

paṯhi-tt-am[12] 'learning'

(b) Suffixation of /-a/

7.22.2 Phonologically the suffix structure in this case may be expressed as —A^{y}. The vocalic articulation implied is short, open and slightly fronted.

—A^{y} is stated after lateral final stems. The internal junction is —/— prosodic (see 6.4).

eg. kol-a 'murder'

vil-a 'price'

ṉil-a 'stand'

(c) Suffixation of /-ca/

7.22.3 The suffix structure is expressed in phonological formulae as —Pə^{y}. The consonantal element is a long tense palatal affricate.[13] This is followed by a short mid central vowel.

—Pə^{y} is stated after retroflex continuant final stems.

eg. viiɣ-ca 'fall'

taaɣ-ca 'descent'

(d) Suffixation of /-ma/

7.22.4 This is expressed in phonological formulae as —Nə^{y}. Phonetically the suffix syllable consists of a bilabial nasal[14] followed by a short mid

---

12. As has already been stated in 2.20.3, this and /paṯhi-ppə/ (see 7.22.9) have a marginal stem. But the post-stem structures are clearly native.

13. Although the reading transcription, following the convention of orthography has represented this articulation by a single c only.

14. On following page.

central vowel.

—N ə ^{y} is stated after flapped final stems:

eg. oor-mma 'memory'

neer-mma 'fineness'

(e) Suffixation of /-və / and /-vi/

7.22.5 The two continuant initial forms of the verbal noun suffix, /-və / and /-vi/ can be handled together in phonological statements and given the formulaic expression: —X ə $^{w/y}$.

The occurrence of the two alternants after stems is conditioned as follows: The one expressible as —X ə ^{y} occurs after w-prosodic non-C final disyllabic stems. The other one expressible as —X ə ^{w} occurs after y-prosodic non-C final disyllabic stems and after palatalized lateral or flapped final monosyllabic stems. That is to say, the stem final and the suffix final are prosodically contrastive.

After monosyllabic $\overline{V}$ final native stems —X ə ^{w} is statable, irrespective of the prosodies characterizing the stem.

The junction between C final stem and C initial suffix is characterized by a syllabic junctional element expressible as — ə — and involving a short open vowel.

Examples of verbal noun forms illustrating the statements made above are arranged in Table 7.7 together with indication of phonological structure in each case.

Footnote 14 from previous page:

14. Phonetically the nasal here is long. But it is only a general phonetic feature of the language that in consonant clusters the consonant following /r/ will mostly be long and tense (1.38.2). This has, therefore not been given expression in the phonological formula proposed for the verbal noun suffix.

Phonetic form	Stem	Junction	Suffix
maRavi	CVCV^{w}—	≠	—X ə ^{y}
piRavi	"	"	"
maRavə	CVCV^{y}—	"	—X ə ^{w}
tikavə	"	"	"
virivə	"	"	"
varavə	CVL^{y}—	—ə—	"
celavə	"	"	"
veevə	C$\overline{V}^{y}$—	≠	"
noovə	C$\overline{V}^{w}$—	"	"
puuvə	"	"	"

TABLE 7.7

(f) Suffixation of /-i/

7.22.6a The phonetic form /-i/ of the verbal noun suffix is expressible in phonological formulae as —I^{y}.

This occurs after the verb stem /pak-/ 'to divide' alternating with /paa-/. The internal junction is characterized by the presence of a junctional element expressed as — ə^{w}P— and involving a short close back vowel followed by a short lax dental plosive.

eg. pak-ut-i 'half' CVC— ^{w}P—I^{y}

Note that here is a reflection of the mutual contrastiveness of the prosodies characterizing the suffix syllable and the stem syllable observed in regard to the distribution of /-və / and /-vi/ pointed out in 7.22.5. The only difference in this case is that here it is the junction syllable which is prosodically contrastive with the suffix syllable.

After the long vowel ending alternant, namely /paa-/ the junctional element consists only of the consonantal articulation: /paa-t-i/.

USE OF UNINFLECTED VERB STEM

7.22.6 Suffix was a morphological abstraction made for all verbal noun forms discussed hitherto. There are, however, some verbal noun forms which do not require such an abstraction to be made. In these instances the uninflected verb stem itself functions as the nominative case form of the verbal noun. Verb stems functioning thus belong to the following types:

I. C final

7.22.7. Phonetically all these have a syllabic vowel statable after the stem final consonantal articulation.

(1) Monosyllabic verb stems having invariably heavy syllable quantity.

eg. kuttə 'stab'

veṭṭə 'cut'

caaṭə 'cart'

(2) Disyllabic verb stems of which the final syllable is invariably heavy.[15]

eg. payaRRə 'physical exercise'

caviṭṭə 'kick'

(3) g-prosodic variable-C final stem for which an apical plosive or a retroflex lateral is stated finally.

eg. oot- > oottə 'recital'

uuR- > uuRRə 'fountain'

15. /malarə/ '(full-blown) flower' (< malar- 'to be blown') is an exception.

paaʈ- > paaʈʈə 'song'

iruɭ- > iruʈʈə[16] 'darkness'

(4) g-prosodic NP-lax final stems (see 3.16.1)

eg. tiŋŋ- > tikkə 'pressure'

viɭaŋŋ- > viɭakkə 'lamp'

(5) Monosyllabic verb stems of the canonical form (C)VC which are light in syllable quantity, changing into heavy in the verbal noun forms.

eg. uɳ- > uuɳə 'meal'

keʈ- > keeʈə[17] 'defect'

cuʈ- > cuuʈə 'heat'

tin- > tiinə 'food'

peR- > peeRə 'delivery'

por- > poorə 'fight'

II. Non-C final

7.22.8 Non-C final verb stems functioning as verbal noun forms are disyllabic.

eg.	iʈi	'hit'	muRi	'cut'
	kaɭi	'play'	kuru	'seed'
	ciri	'laugh'	vaɭa	'bangle'
	pori	'spark'	kiɭa	'digging'

16. Attention may be drawn at this stage to spectrogram 16 for /iruɭum/ and /iruʈʈə/ included in section 8.4.

17. See spectrogram 17 for a comparison of the durational difference between the articulation of the radical vowel in /keʈum/ and /keeʈə/.

7.22.9 It may also be added in conclusion that there are certain verbal noun forms for each of which there are no morphological abstraction other than stem and junctional element, that is, no suffix structure need be stated in handling them phonologically. All the stems assigned to this type are non-C final. The verbal noun forms corresponding to these stems end in a syllabic release vowel. A non-syllabic junctional element statable between this final syllabic release vowel and the stem final V or is expressible in phonological formulae as —P— and involve a long tense bilabial plosive articulation.

eg.	tuu-ppə	'sweeping'	
	ari-ppə	'filter'	
	aʈu-ppə	'fire-place'	
	naʈa-ppə	'walk'	
	paʈhi-ppə	'learning'	(See footnote 12 in section 7.22.1).

NEGATIVE VERBAL NOUN FORM

7.23 The verbal noun suffix in negative verbal noun forms such as /taraayka/ 'not giving', /keeʔkkaayka/ 'not hearing' /udikkaayka/ 'not rising' may be expressed in phonological formulae as —P ə^{y}. Phonetically, the consonantal element involved is a short lax voiced weakly fricativized velar articulation [ɣ] followed by a short mid central vowel.

This suffix always occurs after the y-prosodic negative suffix (see 7.12.0). Occasionally it is found to be in free variation with /-ma/ which may be given the formulaic expression —N ə. The suffix initial nasal is short and bilabial followed by a short mid central vowel.

eg. pooraayka ∿ pooraayma 'insufficiency'

MARGINAL VERBAL NOUN

7.24.0 Only those marginal verbal noun forms for which the junction and suffix structures are conveniently and clearly statable together with those for native forms have been taken into account hitherto (eg. /pa ˽hikkal, pa ˽hikkuka, pa ˽hittam, pa ˽hippə /). In regard to many other marginal verbal noun forms that are current in colloquial Malayalam, special suffix structures have to be set up and various special inter-relations of stem and suffix stated. These are the subject matter of the remaining sections of this chapter.

NUMBER OF STEM-SYLLABLES

7.24.1 The stem final verbalizing suffix /-i-/ occurring in most marginal verbal forms is not retained in most marginal verbal noun forms corresponding to them.[18] A comparison of the relevant forms cited below will reveal this point:

Finite verbal form future	Verbal noun
jani-kkum	jan-anam
bhaavi-kkum	bhaav-am

Consequently the stem in a marginal verbal noun form contains one syllable less than that in other forms of the verb in question.

---

18. In marginal verbal noun forms having a suffix structure which is native (as in the examples cited in 7.24.0) and in forms like /jiivitam/ 'life' this suffix is retained.

Finite verbal form: future	No. of St.Syls.	Verbal noun	No. of St.Syls.
bhrami-kkum	2	bhram-am	1
sambhrami-kkum	3	sambhram-am	2
paribhrami-kkum	4	paribhram-am	3

TABLE 7.8

It should also be noted that the prefix syllables are retained as such in the verbal noun forms.

QUANTITY PATTERNS IN STEM SYLLABLES OF MARGINAL VERBAL NOUN FORMS

7.24.2 For reasons given above, any discussion of changes in the pattern of syllable quantity possible in marginal verb stems can be conveniently restricted to the radical syllable. There are a few instances in which most forms of a given verb have a light radical syllable whereas in the corresponding verbal noun form it is heavy. In Table 7.9 the forms numbered 1-8 show constant quantity of radical syllables throughout the scatter and 9 - 17 a change in the quantity of radical syllables as described above. In 7 and 8 the quantity of the radical syllable remains constant although there is change in the length of the vowel in that syllable. Examples 9 and 13 show variability of radical final consonant also.

CHANGE IN VOWEL GRADE IN RADICAL SYLLABLE

.24.3 It is also worthy of mention that in 7, 8, 16 and 17 the vowel grade statable for the radical syllables in the verbal noun forms is different from that in other forms in the scatter. (See Table 7.10).

PHONETIC FORMS			GENERALIZED STRUCTURE of verbal noun	
FINITE VERBAL FORM-FUTURE	VERBAL NOUN	STEM	JUNCTION	SUFFIX
1. aarambhikkum	aarambham	$\bar{V}CV\underline{C}C-$	$\neq$	$-\partial N$
2. jiivikkum	jiivitam	$C\bar{V}CV-$	$-P-$	"
3. janikkum	jananam	$CVC-$	$-\partial N-^{\neq}$	"
4. bharikkum	bharaɳam	"	$-\partial N-^{r}$	"
5. aaʃikkum	aaʃa	$\bar{V}C-$	$\neq$	$-A^{y}$
6. bhaavikkum	bhaavana	$C\bar{V}C-$	$-\partial N^{\neq}-$	"
7. moocikkum	mukti	$C\breve{\bar{V}}C-$	"	$-I^{y}$
8. pooʂikkum	puʂʈi	"	$-P^{r}-$	"
9. bhajikkum	bhakti	$CVC-$	$-P^{\neq}-$	$-I^{y}$
10. jvalikkum	jvaala	$CC\breve{\bar{V}}C-$	$\neq$	$-A^{y}$
11. dharikkum	dhaaraɳa	$C\bar{V}C-$	$-\partial N^{r}-$	"
12. vasikkum	vaasam	"	$\neq$	$-\partial N$
13. tyajikkum	tyaagam	"	"	"
14. vahikkum	vaahanam	"	$-\partial N^{\neq}$	"
15. duʂikkum	duuʂaɳam	"	$-\partial N^{r}$	"
16. bhujikkum	bhoojanam	"	$-\partial N^{\neq}$	"
17. duʂikkum	dooʂam	"	$\neq$	"

TABLE 7.9

This table provides sufficient examples of marginal verbal noun forms current in colloquial Malayalam and indicates one way of looking at them phonologically. Marginal as these instances are, their treatment in this thesis has been intended to be illustrative and not exhaustive.

SUFFIX STRUCTURES

.24.4 /-am, -a/ and /-i/ are the phonetic forms to be handled in discussing the suffix structures in marginal verbal noun forms. These are expressible in phonological formulae as $-\partial N$, $-A^{y}$ and $-I^{y}$. It may be recalled here

that three of the phonetic forms of the native verbal noun suffix have also been given the same formulaic representation (7.22.1, 2, 6). These marginal suffixes are, in fact, homophonous with those native ones and, therefore, do not require any special statements of phonetic implication.

Phonetic forms		Vowel grade in radical syllable	
F.Vb.	V.N.	F.Vb.	V.N.
moocikkum	mukti	—$\bar{E}^{W}$—	—I^{W}—
poo ṣṭ ikkum	puṣṭi	"	"
bhujikkum	bhoojanam	—I^{W}—	—$\bar{E}^{W}$—
du ṣṭ ikkum	doo ṣṭ am	"	"

TABLE 7.10

JUNCTION STRUCTURES

7.24.5 Without entering into the details of marginal systems of junction between stem and verbal noun suffix, it may be added that the following prosodic and phonematic elements of structure can usefully be set up for handling the inter-relations involved.

I. Junctional prosodies

1. Retroflexion: symbolized as r. The major phonetic implication of this prosody is the retroflexion of any consonantal articulation stated at the given structural place. See examples cited in Table 7.9.

2. Absence of Retroflexion: symbolized as $\not r$. The major phonetic implication of this prosody is the absence of retroflexion in the articulation of any consonant stated at the structural place involved.

3. Absence or non-relevance of both r and $\not r$ as well as of any junctional elements consisting of C or ∋ elements of structure. This is

symbolized as /.

II. Junctional elements

The junctional elements comprising either C elements or ə and C elements of structure and statable in handling the stem-suffix junction can be expressed in phonological formulae as shown below together with their phonetic implications set out against each of them.

1.	—P—	a short apical plosive
2.	—əN—	a short mid central vowel followed by a short apical nasal.

8. EXPERIMENTAL FINDINGS

CHAPTER 8

EXPERIMENTAL FINDINGS

8.0 The purpose of this final chapter of the present thesis is to summarize some interesting findings arrived at with the aid of techniques of instrumental phonetics. Some of the utterances referred to and studied by the perception technique in different stages of the investigation undertaken in the earlier chapters are studied by the techniques of Direct Palatography, Kymography, Mingography and Spectrography. Bearing in mind that "utterances are events, not facts" (Firth 1948 p.857) some new examples selected specially to suit the particular demands of each technique were also studied in order that the "specialized instrumental abstractions" (Firth 1948 p.858) obtained from them can profitably be integrated with the abstractions at various theoretical levels. In one sense, as Firth has remarked, not only the instruments used in such investigations are "inventions" but also their output such as the palatogram and the kymogram. "They are not nearer to 'reality' than the fictions of perception phonetics or the abstractions, fictions or inventions of phonology" (Firth 1950 p.771).

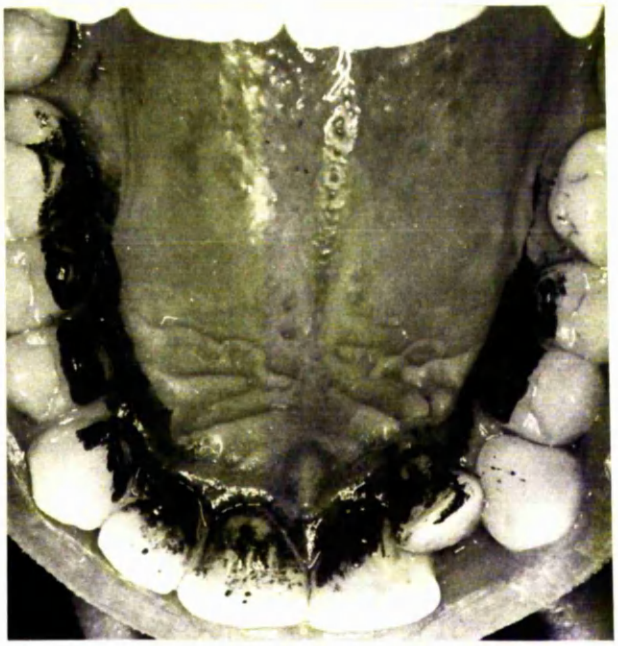
DISCUSSION OF PALATOGRAMS

8.10 All the palatograms presented in this thesis are word-palatograms obtained by the technique of direct palatography. The investigator's tongue

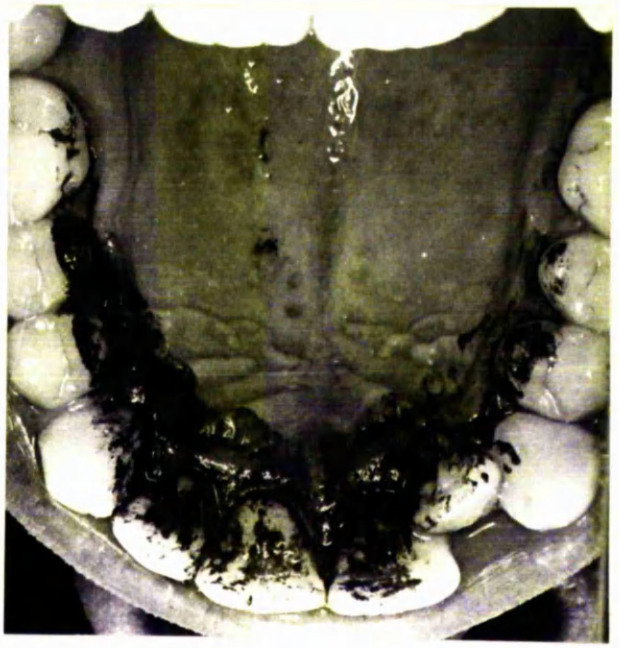
was painted with a paste of charcoal and chocolate powder. The word chosen for being tested was uttered once (or twice, when the mark obtained on the roof of the mouth was not clear enough to provide satisfactory photographic results) and a narrow mirror inserted carefully into the investigator's mouth. The reflection of the roof of the mouth obtained on this mirror was then photographed. Before starting the investigation with the next word, it was ensured that the investigator's mouth was thoroughly cleaned.

Providing a transparent grid to help measure the area of contact with reference to the various horizontal and vertical zones (Firth 1948 p.860) was found to be not advisable since, strictly speaking, the photographs taken for different utterances will necessarily show a slightly different picture of the palate due to various factors such as the angle at which the mirror is placed and the distance of the camera from the mirror. It is, however, possible and useful to delimit the different zones by drawing imaginary reference lines in regard to each palatogram, on the basis of dentition plan. The names by which these different zones were referred to by Firth (1948 p.860) are used in the following discussion of palatograms.

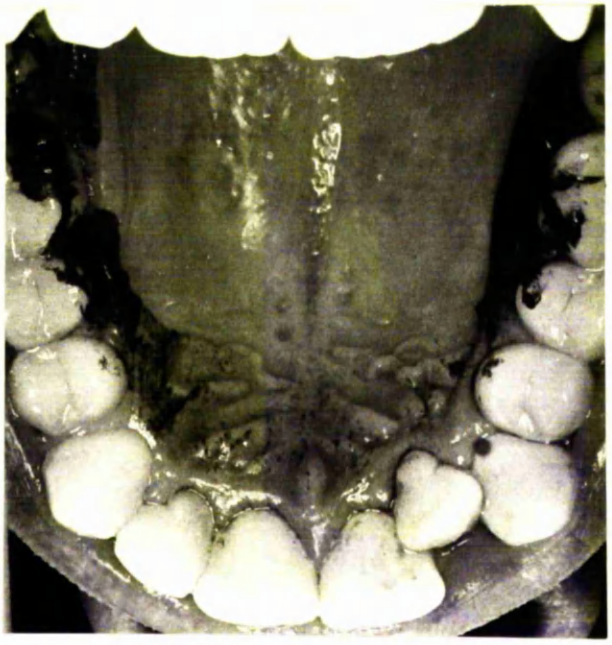
In regard to velar articulations, palatograms are often not quite helpful and the labial articulations do not have any palatographic effect. Because of this only palatograms providing evidence for non-labial articulations forward of the soft palate are taken up for discussion in this section.



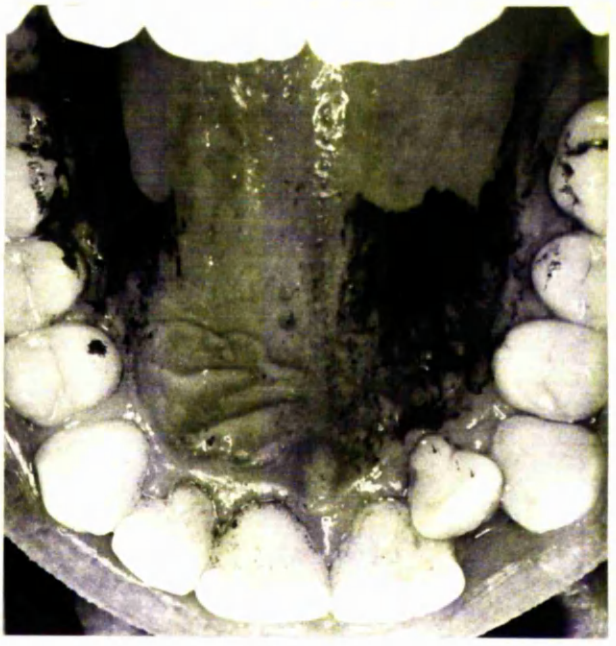
1. ootum



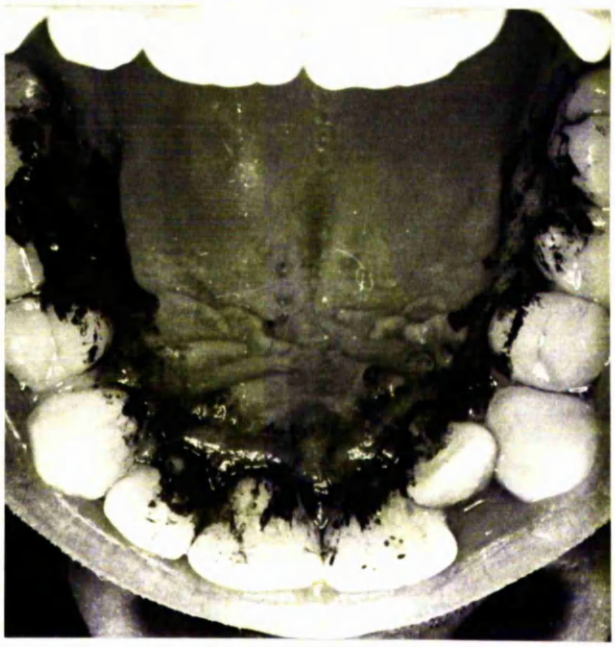
2. uuttə



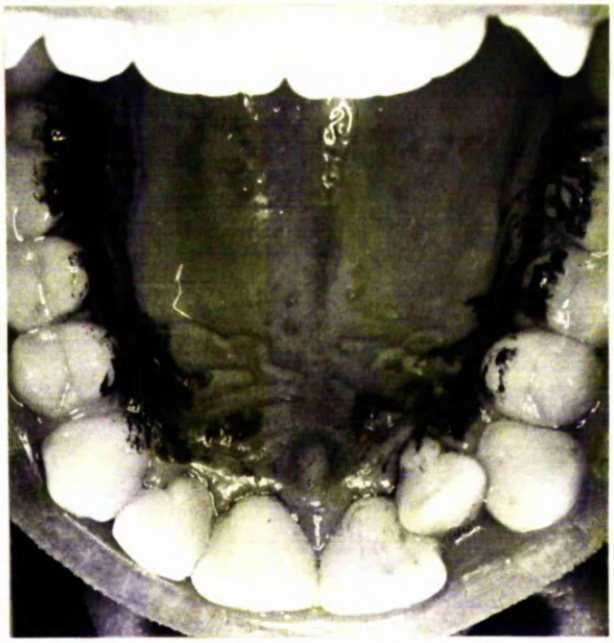
3. ooṭum



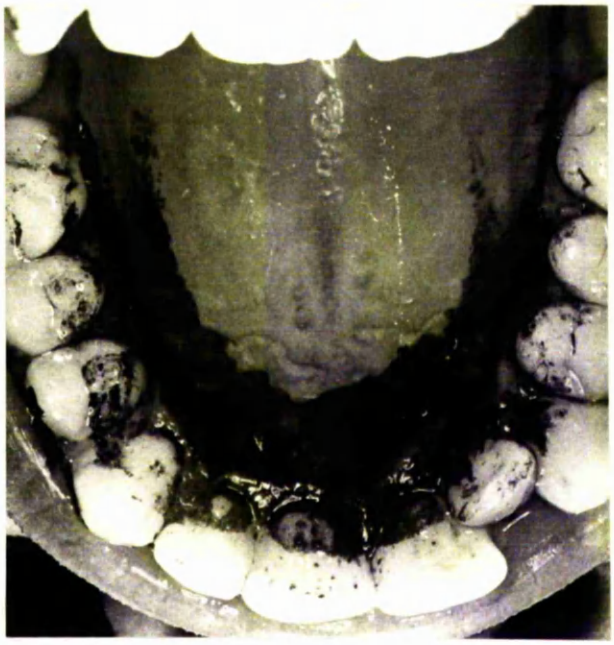
4. uuttə



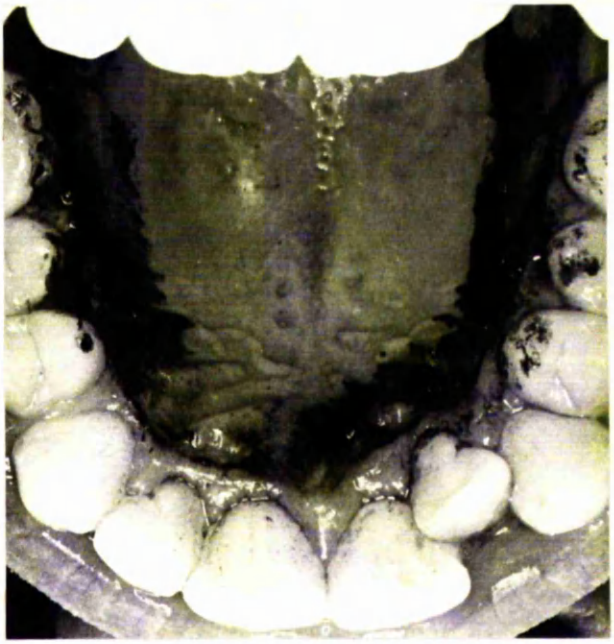
5. uuRRə



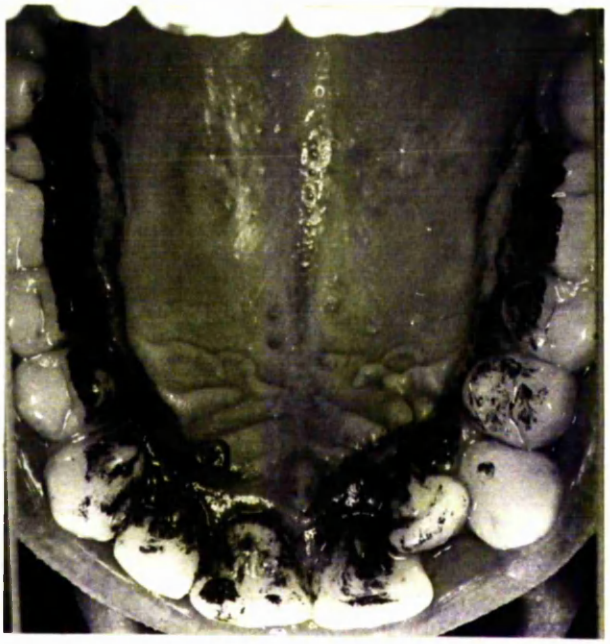
6. aacamam



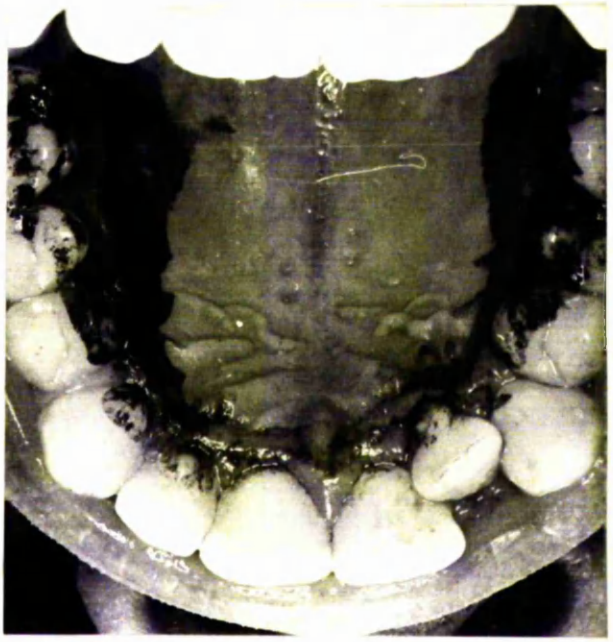
7. puuccə



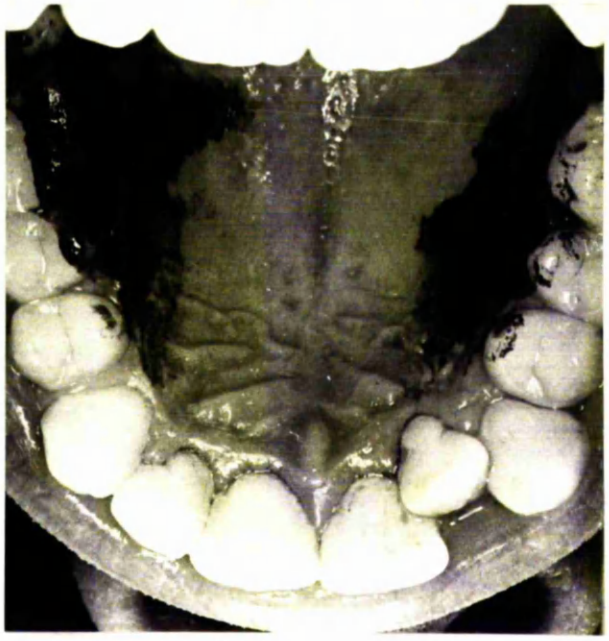
8. puuja



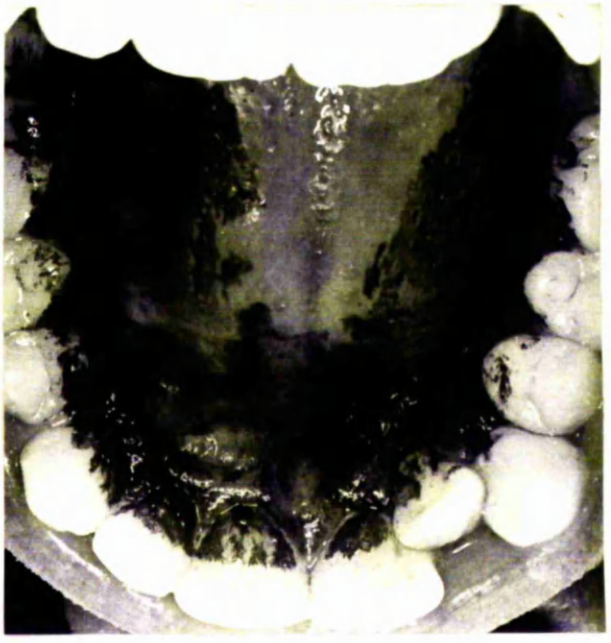
9. vannu



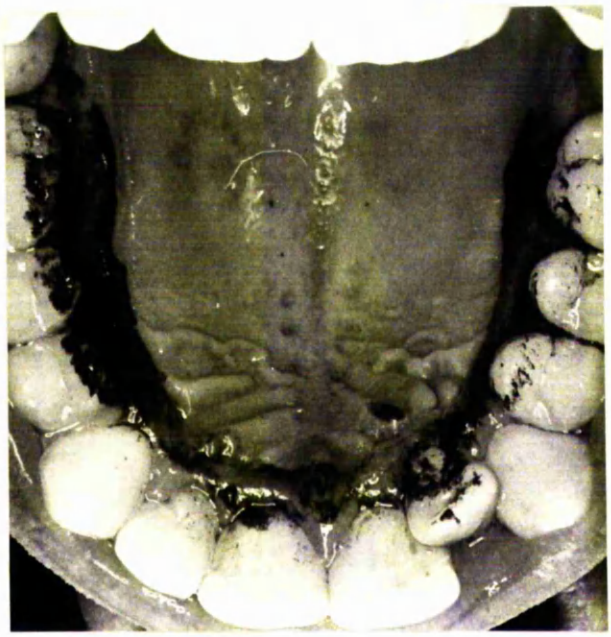
10. minni



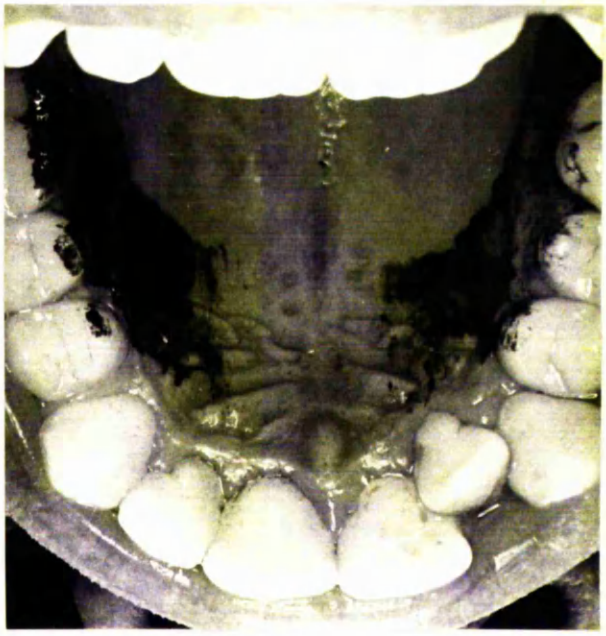
11. eɳɳi



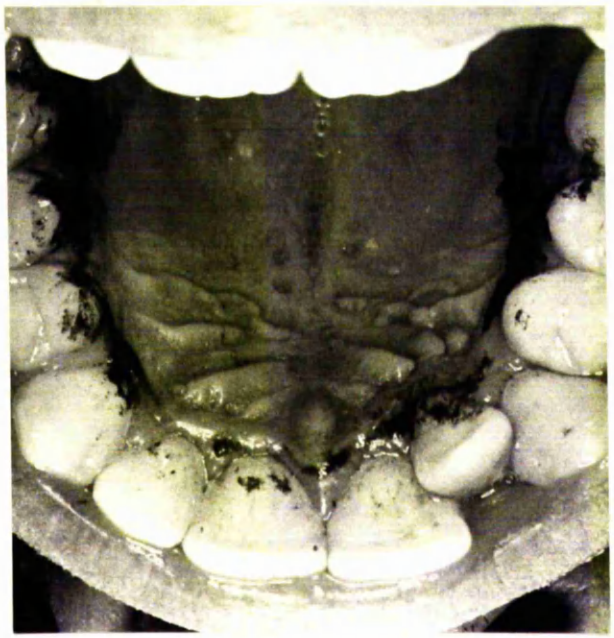
12. aaɲɲu



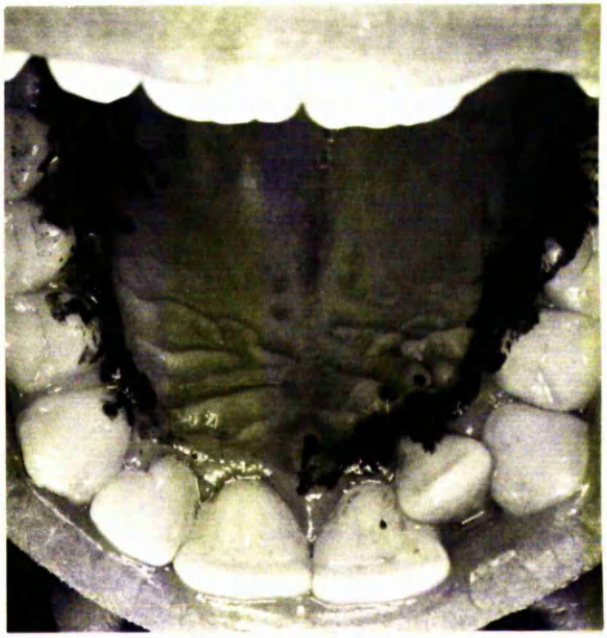
13. olippə



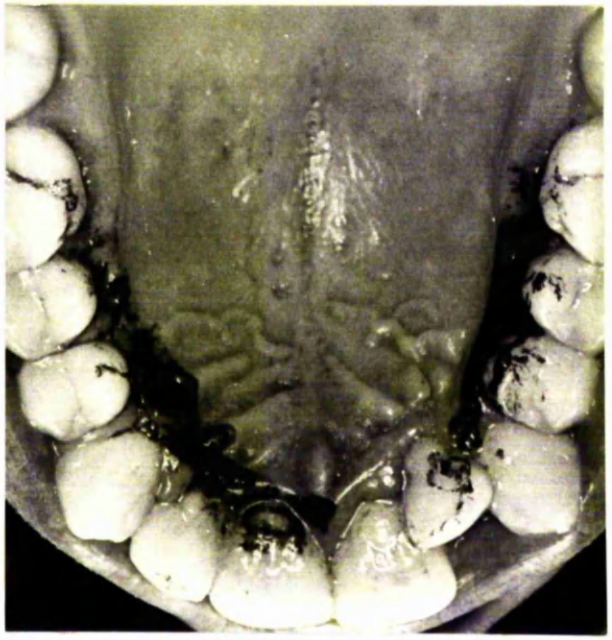
14. oˌippə



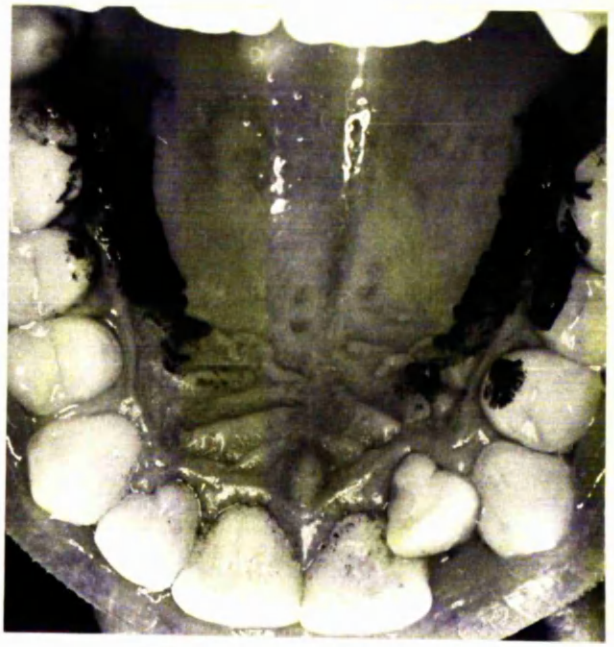
15. uuri



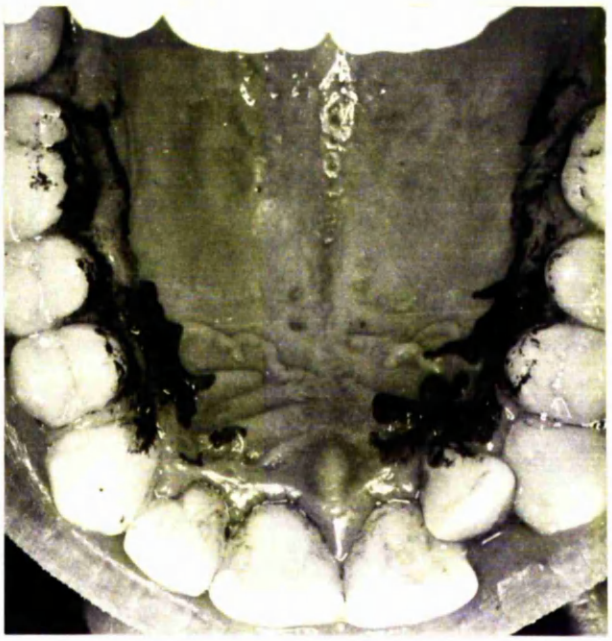
16. uuRi



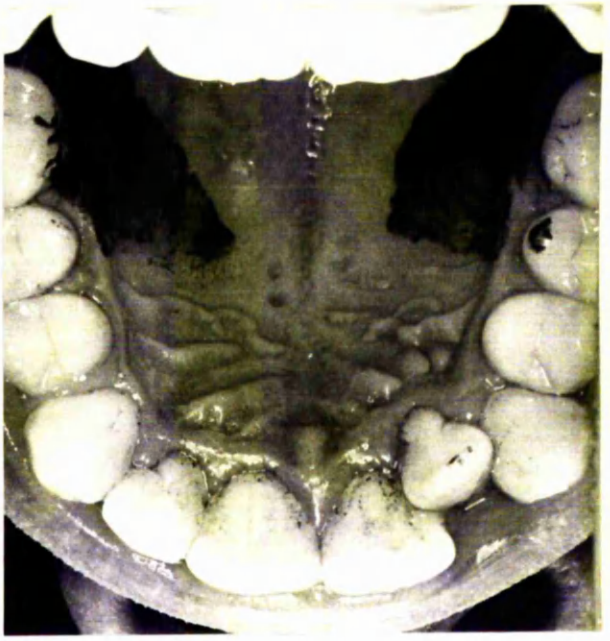
17. vaasam



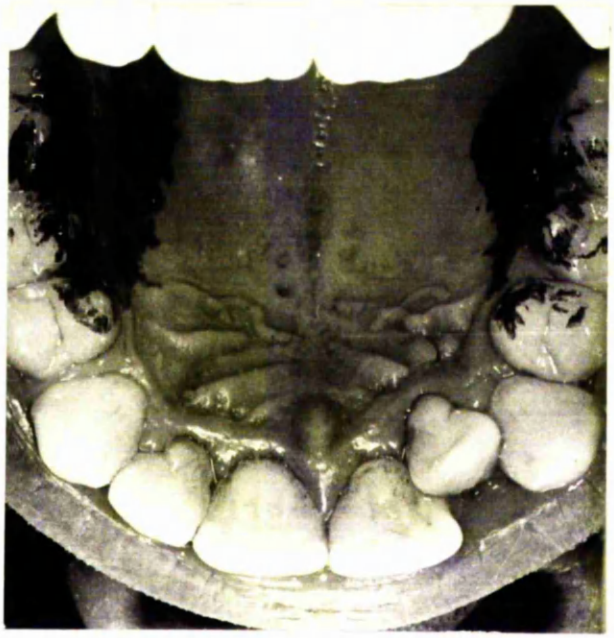
18. muʂippə



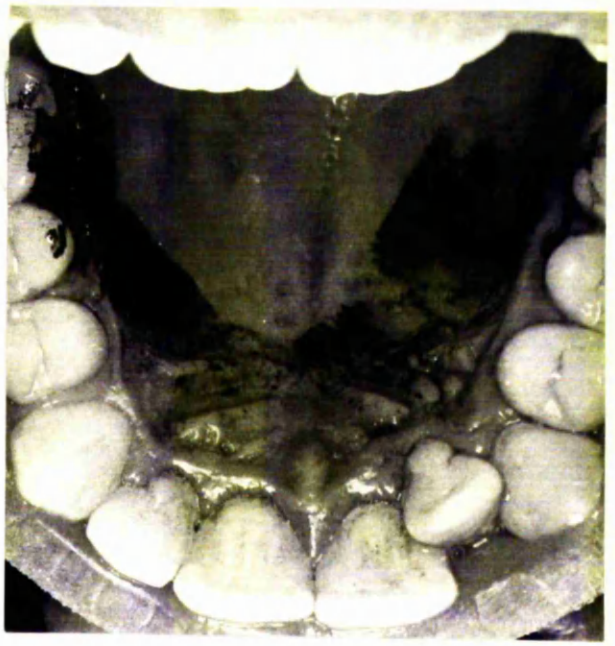
19. aaʃa



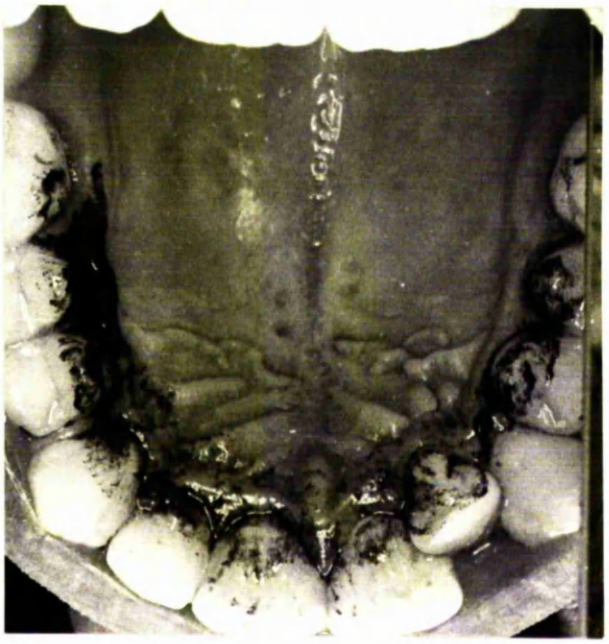
20. oɽippə



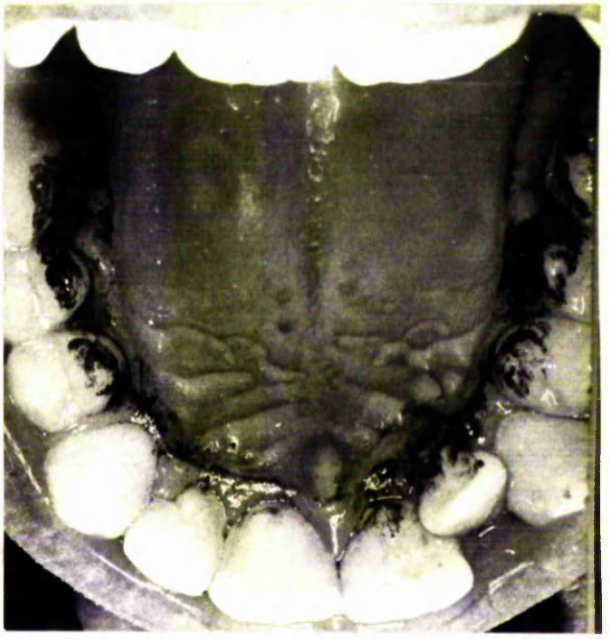
21. aaya



22. kṣama



23. utsaaham



24. utbhavam

PALATOGRAMS ILLUSTRATING APICAL PLOSIVE ARTICULATIONS

8.1.1 See palatograms 1 - 5 for the following verbal forms: 1. / ootum/ 'will recite', 2. /uuttə/ 'blowing', 3. /oo ʈum/ 'will run', 4. /uu ʈʈə/ 'meal' and 5. /uuRRə / 'fountain'.

In palatogram 1 a crescent shaped mark left by the firm contact of the tip of the tongue with the roof of the mouth in the dental zone is observed. The only consonantal articulation which will have any palatographic effect in the word /ootum/ is /t/. This is, therefore, sufficient evidence to show that for /t/ the passive articulator is the upper teeth and the active articulator the tongue tip. The mark of contact in this palatogram extends through the sides of the mouth up to the mid-palatal zone. This is the result of the edges of the tongue being in contact with both sides of the mouth in order to shut off the egressive air completely during the closure phase of the plosive. The palatographic effect of the vowel /u/ which follows /t/ has also to be taken into account in this connection.

Compare palatogram 1 with 2 for /uuttə / in which there is evidence for a considerably more extensive and firm contact indicating the tense quality of /tt/.

Palatograms 3 and 4 provide sufficient evidence for retroflex articulation of medial plosives. The effect of the light brushing of the tip and blade of the tongue against the roof of the mouth is visible as dispersed black spots on the pre-palatal and post-alveolar zones. It might also be noted that the tip and blade of the tongue have not made even the slightest contact with the alveolar, denti-alveolar and dental zones. This is typical of a retroflex articulation. Palatogram 4, illustrating a long tense retroflex plosive articulation shows the effect of a contact which is

more extensive and firm than that is illustrated by palatogram 3 in which the articulation in question was short and did not seem to have involved so much muscular energy as for /tt/.

Palatogram 5 for /uuRRə / shows the mark of a firm contact of the tip of the tongue with the teeth-ridge. This indicates a long tense apical alveolar plosive articulation for /RR/. As in many other palatograms studied here the contact on both sides of the roof of the mouth extends up to the mid-palatal zone. This, however, is the effect of the sides of the tongue coming into contact with the sides of the roof of the mouth during the articulation of the whole word and is not to be regarded as anything specially characteristic of the articulation examined here.

PALATOGRAMS ILLUSTRATING DORSAL AFFRICATE ARTICULATIONS

3.1.2 See palatograms 6 - 8 for the following verbal forms: 6. /aacamam/ 'ablution', 7. /puuccə / 'smear' and 8. /puuja/'worship'

For /aacamam/ the mark of contact of the blade and front of the tongue with the roof of the mouth in the post-alveolar, pre-palatal and mid-palatal zones is not so firm or continuous as in the case of /puuccə / (PM.7), but it is comparable with that in /puuja/ (PM.8).

Palatogram 7 for /puuccə / shows the result of an extremely firm extensive and continuous contact of the blade and front of the tongue with the roof of the mouth in the following zones: denti-alveolar, post-alveolar, pre-palatal and mid-palatal.

PALATOGRAMS ILLUSTRATING THE ARTICULATION OF APICAL AND DORSAL NASALS.

.1.3 See palatograms 9 - 12 for the following verbal forms: 9. /vannu/ 'came', 10. /minni/ 'shown, 11. /eɳɳi/ 'counted' and 12. /aaɲɲu/ 'sprang forward' .

In palatogram 9 for /vannu/ the mark resulting from a firm contact of the tip and edges of the tongue with the roof of the mouth in the dental zone extends on both sides up to the post-palatal zone. Compare this with palatogram 10 for /minni/ in which the dental zone is completely devoid of any black marks and the result is, in its turn, comparable with that in /uuRRə / (PM.5). Here is sufficient palatographic evidence for proving that the medial long nasal in /vannu/ is dental and that in /minni/ alveolar.

Palatogram 11 for /eɳɳi/ provides evidence for retroflex articulation of the medial long nasal in that word. Compare this with the palatograms 3 and 4 for /ooʈum/ and /uuʈʈə/ respectively discussed in 8.1.1.

Palatogram 12 for /aaɲɲu/ shows the result of an extremely firm extensive and continuous contact of the blade and front of the tongue with the roof of the mouth from the denti-alveolar zone to the post-palatal. The area of contact is wider than even that in the case of /puuccə / (PM7).

PALATOGRAMS ILLUSTRATING APICAL LATERAL ARTICULATIONS

8.1.4 See palatograms 13 for /olippə / 'flow' and 14 for /oɭippə / 'hiding'. The former shows the result of apical alveolar contact continuing much more firmly on both sides up to the mid palatal zone. Note that the crescent shaped mark is discontinuous in the alveolar zone leaving one gap approximately along the "right line"[1] and another a little bit to the speaker's left of the median line. This is indicative of the apical bilateral articulation of the medial /l/.

Palatogram 14 for /oɭippə/ shows the result of the retroflex articulation (described earlier in 8.1.1) for the medial /ɭ/. Other palatograms comparable to this are 3, 4, 11, 18 and 20.

1. The direct palatogram presented here being the photographic reproduction of a reflection the "right line" which is to the speaker's right has to be on the left of the median line of the palatogram.

PALATOGRAMS ILLUSTRATING APICAL FLAPPED ARTICULATIONS

8.1.5 Palatogram 15 for /uuri/ provides evidence for a light contact of the tongue-tip with the rear part of the denti-alveolar zone.

Palatogram 16 for /uuRi/ 'percolated' shows the result of contact of the tongue-tip with the alveolar zone. The contact is firmer and more extensive in this case than that for /uuri/. It may, however, be noted that the difference in point of articulation for /r/ and /R/ is not always clear cut on palatograms of words involving these articulations. The difference in quality between /r/ and /R/ which is too conspicuous to be ignored is more due to the difference in resonance resulting from the secondary articulation than to the difference in point of articulation. /r/ is palatalized whereas /R/ is not.

PALATOGRAMS ILLUSTRATING APICAL AND DORSAL FRICATIVE ARTICULATIONS

8.1.6 See palatograms 17 - 19 for the following verbal forms 17. /vaasam/ 'residence' 18. /mu ʂ ippə / 'boredom' and 19. /aa ʃ a/ 'desire'.

Palatogram 17 for /vaasam/ shows the result of close approximation of the tongue tip with the denti-alveolar zone leaving the left vertical zone virtually untouched and thereby indicating the central passage of the air-stream. This is typical of the articulation of the denti-alveolar fricative /s/.

Palatogram 18 for /mu ʂ ippə / provides evidence for the retroflex articulation of the fricative /ʂ / (see 8.1.1 for the description of the palatographic effect of a retroflex articulation.)

Palatogram 19 for /aa ʃ a/ furnishes evidence for a laminal articulation in which the blade of the tongue is in close approximation with

the hard palate. The mark of contact of the edges of the tongue with both sides of the roof of the mouth is conspicuous from the post-alveolar zone up to the mid-palatal zone. Note that both the left and right vertical zones are left unmarked giving evidence for the central passage of air-stream during the articulation of /ʃ/.

PALATOGRAMS ILLUSTRATING APICAL AND DORSAL CONTINUANT ARTICULATIONS

8.1.7 Palatogram 20 for /oɽippə/ 'pouring' shows the result of the retroflex articulation of the apical continuant /ɽ/. (See 8.1.1 for a discussion of a typical retroflex articulation in my speech.) Note that the area of contact at the sides of the roof of the mouth is more restricted to the palatal zones in this case.

Palatogram 21 for /aaya/ 'which became' shows evidence for an open approximation of the front of the tongue with the hard palate allowing a central passage of the air-stream and having contact of the edges of the tongue with the sides of the roof of the mouth in the post-alveolar and palatal zones.

PALATOGRAMS ILLUSTRATING THE ARTICULATION OF SOME CONSONANT CLUSTERS

8.1.8 See palatograms 22 - 24 for the following marginal verbal forms: 22. /kʂama/ 'patience', 23. /utsaaham/ 'enthusiasm' and 24. /utbhavam/ 'birth'.

Palatogram 22 for /kʂama/ gives clear evidence for a retroflex articulation ⌈tʂ⌋ of the word initial consonant cluster. The negative feature of the fading of the effect of contact in the mid-palatal zone and further back is important. This shows the absence of any velar articulation

involved in the pronunciation of the word although the Malayalam orthography and accordingly the reading transcription have chosen to represent this word initial consonant cluster as one consisting of a voiceless velar plosive and a retroflex fricative. Note that the effect of the brushing of the back of the tip and blade of the tongue against the hard palate is more conspicuous in this palatogram than in any other given in this section to illustrate retroflex articulation (cf. PMs 3, 4, 11, 14, 18 and 20). This may be explained as due to the effect of superimposed articulations of /ʈ/ and /ʂ/.

Palatogram 23 for /utsaaham/ may be interpreted as showing mainly the cumulative effect of the alveolar bilateral articulation of /l/ and denti-alveolar fricative articulation of /s/ rather than that of the dental plosive /t/ and the denti-alveolar fricative /s/ in which case the dental zone should have been more clearly and firmly marked. (cf. PMs 1, 13 and 17. See 1.35.1).

Palatogram 24 for /utbhavam/ shows that the medial consonant cluster does <u>not</u> involve a dental plosive, but has, as one of its constituents an alveolar lateral. Compare this palatogram with PM.13 and see 1.35.1 for a discussion of this cluster.

DISCUSSION OF KYMOGRAMS

3.2.0 The kymograph provides a permanent visual record of the various articulatory movements from one or more of the following parts of the speech tract, namely larynx, nose, mouth cavity and lips. The kymograms, therefore, make it possible to study the different phases of speech continuum and their relationships. On every page of kymograms a time marker tracing consisting of a pure sine wave of 100 cycles per second has been added to provide a

calibration for measuring the duration of any desired part of the utterance or its fundamental frequency. The distance between two adjacent peaks of the sine wave corresponds, therefore, to one centisecond.

Kymographic effect of plosive and affricate articulations

3.2.1 Kymograms 1 - 6 provide larynx and mouth tracings for the following verbal forms: 1. /piicci/ 'squeezed' 2. /kuuppi/ 'folded, 3. /taatti/ 'lowered', 4. /tuukki/ 'suspended', 5. /ceeRRi/ 'sifted' 6. /koo[ɾɾ]i/ 'disfigured'. The information they furnish include, among others, different aspects of the kymographic effect of (i) word initial plosive and affricate articulation /p, t, k/ and /c/. (ii) medial long plosive and affricate articulation /pp, tt, RR, [ɾɾ], kk/ and /cc/.

Initial /p/ and medial /pp/

.2.2 See kymograms 1. for /piicci/ and 2. for /kuuppi/. The mouth tracings show almost vertical displacement at the points of release for both initial /p/ and medial /pp/, marked Rp and Rpp respectively on the tracing. This is due to the pressure of air suddenly released into the mouth-piece of the kymograph during the opening phase of the plosive articulation. The displacement for /pp/ is considerably greater than that for /p/. This is because there was greater air pressure on the release of /pp/ than for /p/.

In the kymogram for /piicci/ regular wave forms on the larynx tracing begin only a few centiseconds after the release of the plosive articulation which can be delimited by comparison with the mouth tracing. This is evidence for the absence of vibration of the vocal cords during the bilabial closure and also during the opening phase of the plosive. To put it briefly, initial /p/ is voiceless.

Similarly in the kymogram for /kuuppi/ the regular wave forms on the larynx tracing stop just at the shutting phase, Spp of /pp/ and resume only a few centiseconds after the release, Rpp of the plosive. Evidently, /pp/ is also voiceless.

Initial /t/ and medial /tt/

8.2.4 See kymogram 3 for /taatti/. The upward displacements on the mouth tracing at the points of release of initial /t/ and medial /tt/ are not as vertical and as high as those for initial /p/ and medial /pp/ respectively. (cf. KMs 1 and 2 for /piicci/ and /kuuppi/). This indicates that the pressure of the air escaping the mouth during the release of a dental plosive is less than that for a bilabial plosive.

As in the case of initial /p/ and medial /pp/ a comparison of the larynx tracing with the mouth tracing in this case reveals that the initial /t/ and medial /tt/ are voiceless.

Initial /k/ and medial /kk/

3.2.5 See kymograms 2 and 4 for /kuuppi/ and /tuukki/. The mouth tracing shows only a slight and slow upward displacement at Rk, the point of release of the initial /k/. The displacement in regard to the release of /kk/ marked as Rkk on the mouth tracing of kymogram /tuukki/ is also less vertical and less high than that for /tt/ (see Rtt in KM 3 for /tatti/). These indicate that the air pressure in these cases is less than that in the release of /t/ and /tt/. This is because the air pressure released at the back region of the mouth cavity is rarefied within the mouth cavity itself and the pressure that reaches the mouth-piece of the kymograph is considerably weaker than that in the case of a release taking place at the front region of the mouth. Moreover, the release of the back of the tongue from the velum seems to be

slower than that for the tip of the tongue from the teeth for /t/.

A comparison of the relevant portions of the mouth and larynx tracings of kymograms 2 and 4 for /kuuppi/ and /tuukki/ reveals that both initial /k/ and medial /kk/ are voiceless.

Medial /RR/

8.2.6 See kymogram 5 for /ceeRRi/. The abrupt rise of the mouth tracing at the releasing point of /RR/ is characteristic of a voiceless tense plosive of which the shutting, closure and release take place in the front region of the mouth cavity. The absence of regular wave forms on the larynx tracing from the shutting phase (marked as S) of /RR/ up to a few centiseconds after its release is evidence for the voicelessness of the articulation involved.

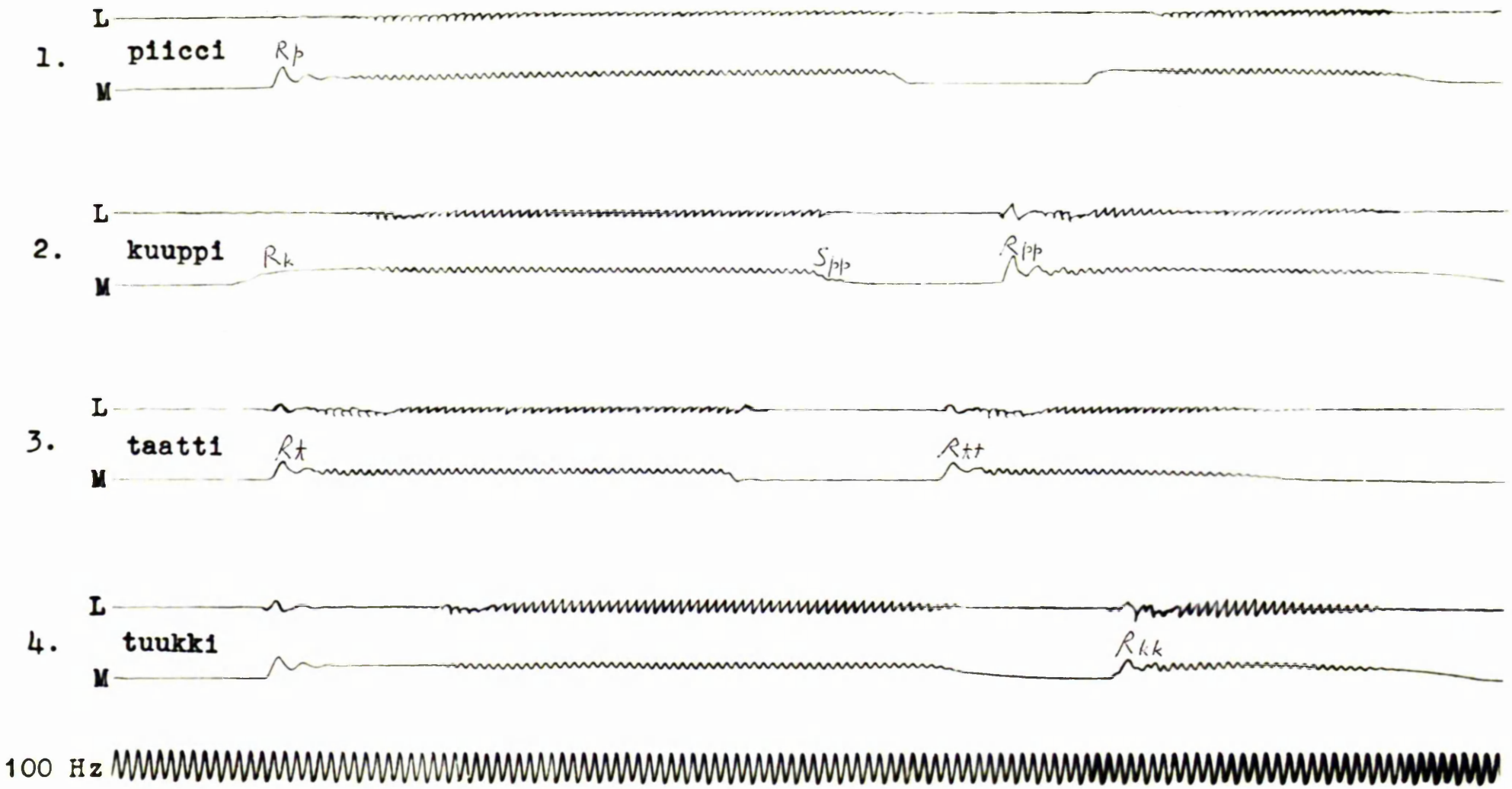
Medial /tt/

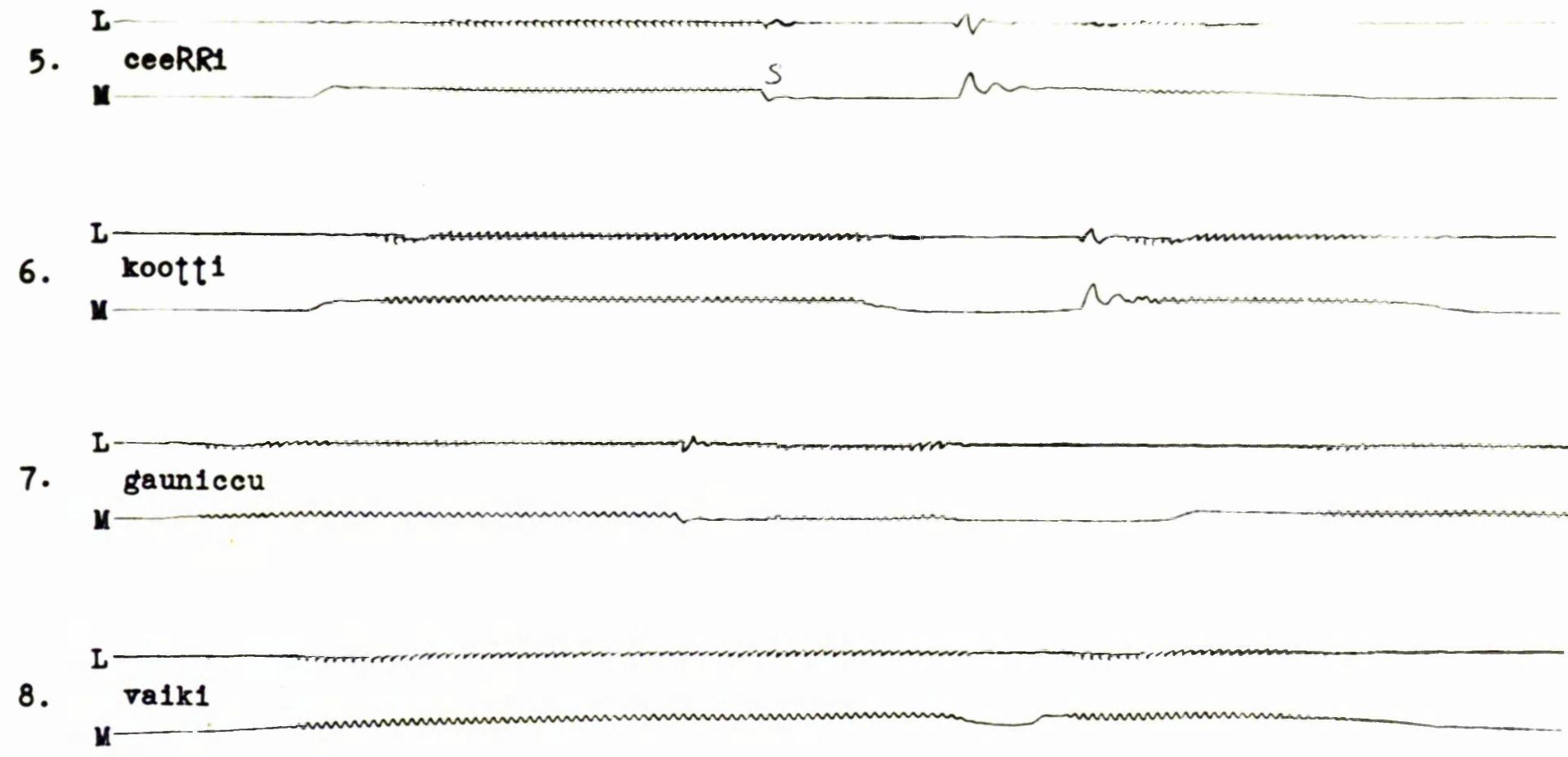
3.2.7 See kymogram 6 for /koo tt i/. The sudden upward displacement on the mouth tracing at the releasing point of /tt/ shows that the articulation involved is a voiceless tense plosive released somewhere in the front region of the mouth cavity. As there are no wave forms on the larynx tracing from the shutting phase of /tt/ up to a few centiseconds after the release of it, /tt/ is clearly voiceless.

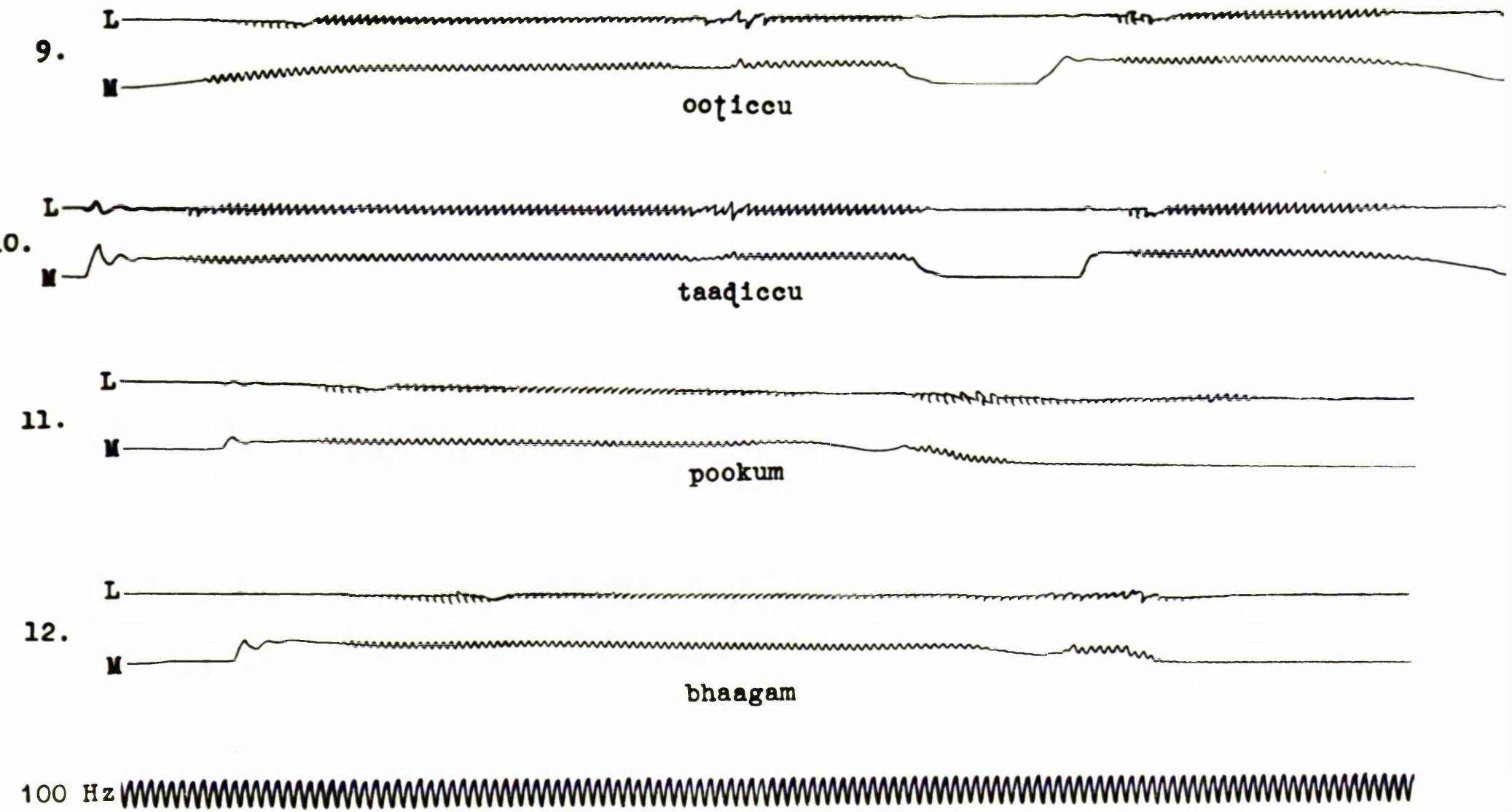
Initial /c/ and medial /cc/

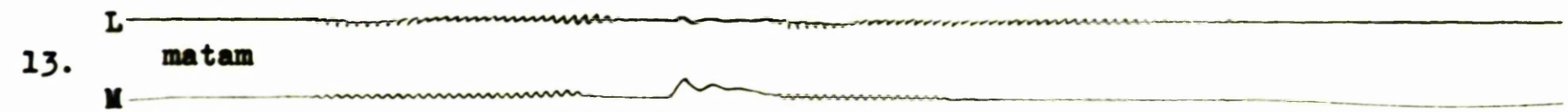
.2.8 See kymograms 5 and 1 for /ceeRRi/ and /piicci/. The mouth tracings show upward displacement for both initial /c/ and medial /cc/. Although the displacements are notably not as abrupt or as high as those for plosives released in the front region of the mouth, they are clearly distinguishable from those for initial or medial velar plosive.

The absence of regular wave forms on the larynx tracings until a few centiseconds after the release of the intial /c/ and from the shutting


L
1. piicci
M
Rp
L
2. kuuppi
M
Rk
Sppp
Rppp
L
3. taatti
M
Rt
Rtt
L
4. tuukki
M
Rkk
100 Hz


L
5. ceeRRi
M
S
L
6. kooʈʈi
M
L
7. gauniccu
M
L
8. vaiki
M
100 Hz


9.
L
M
ooṭiccu
10.
L
M
taaḍiccu
11.
L
M
pookum
12.
L
M
bhaagam
100 Hz

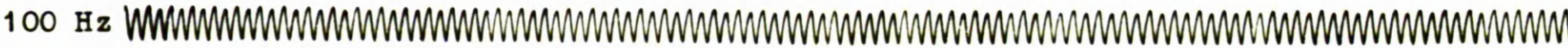


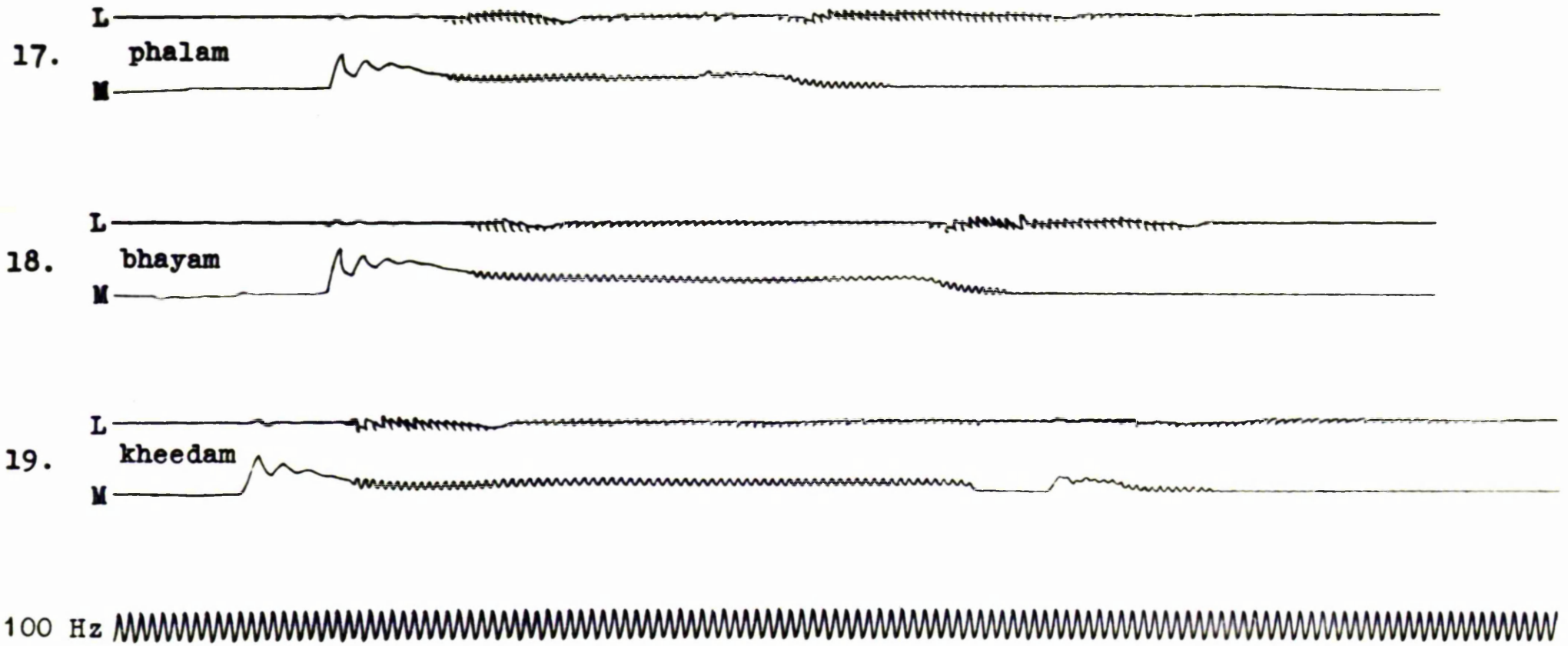
13. matam

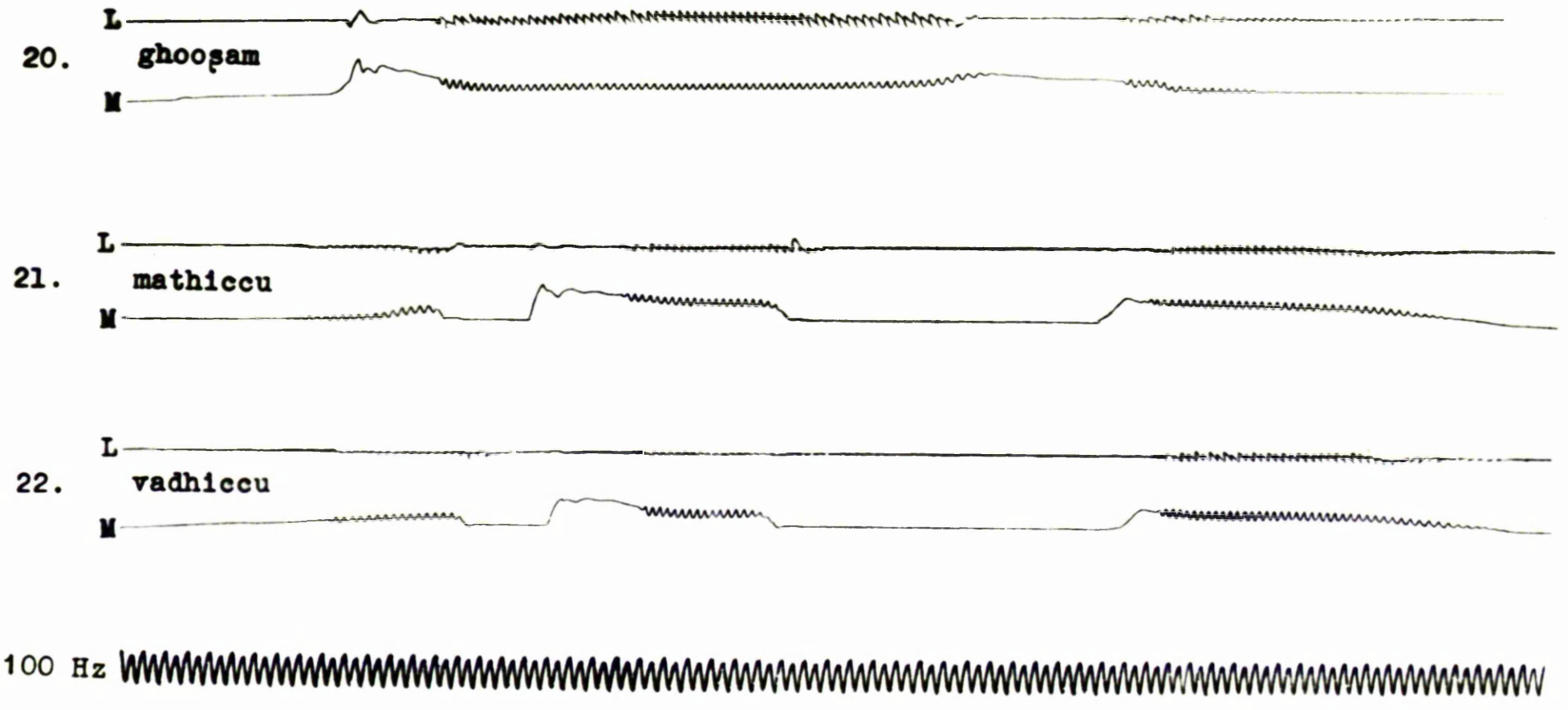
14. madam

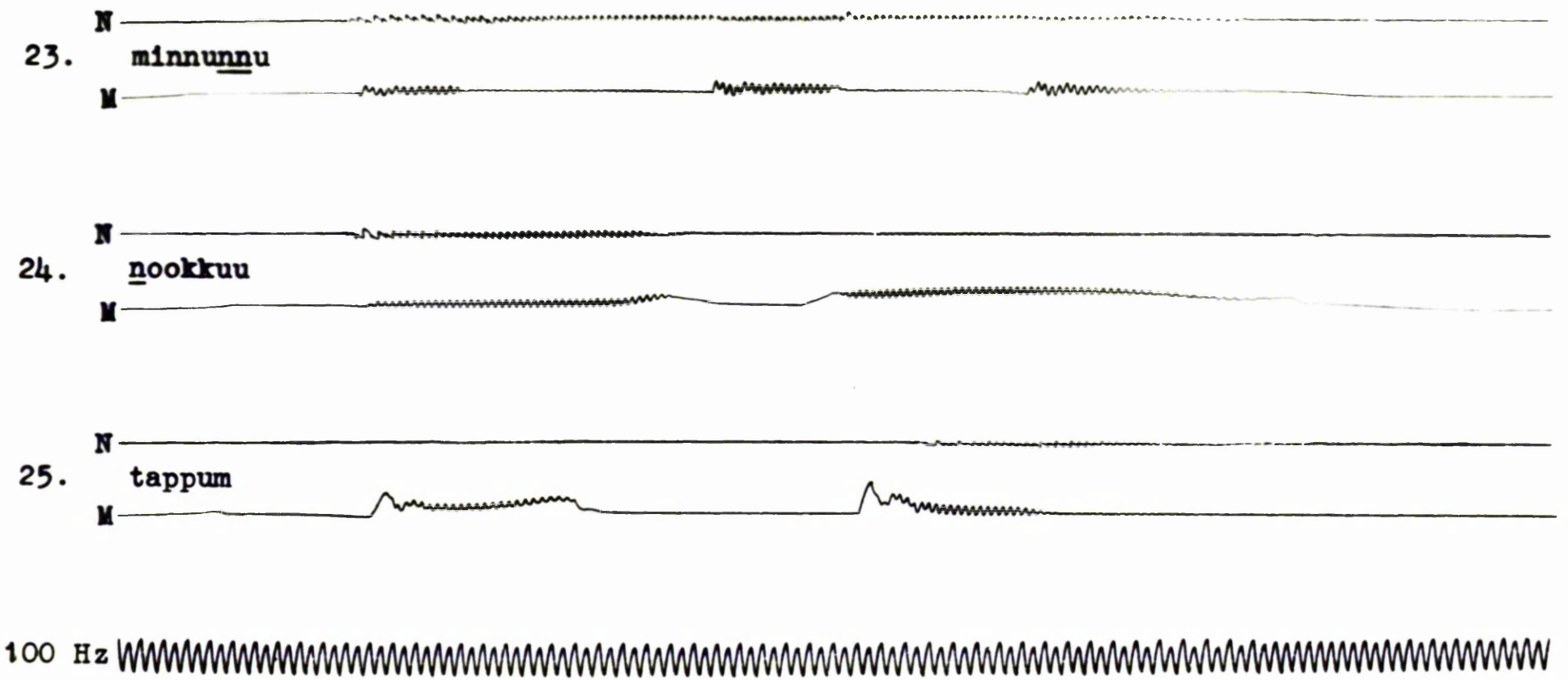
15. raciccu

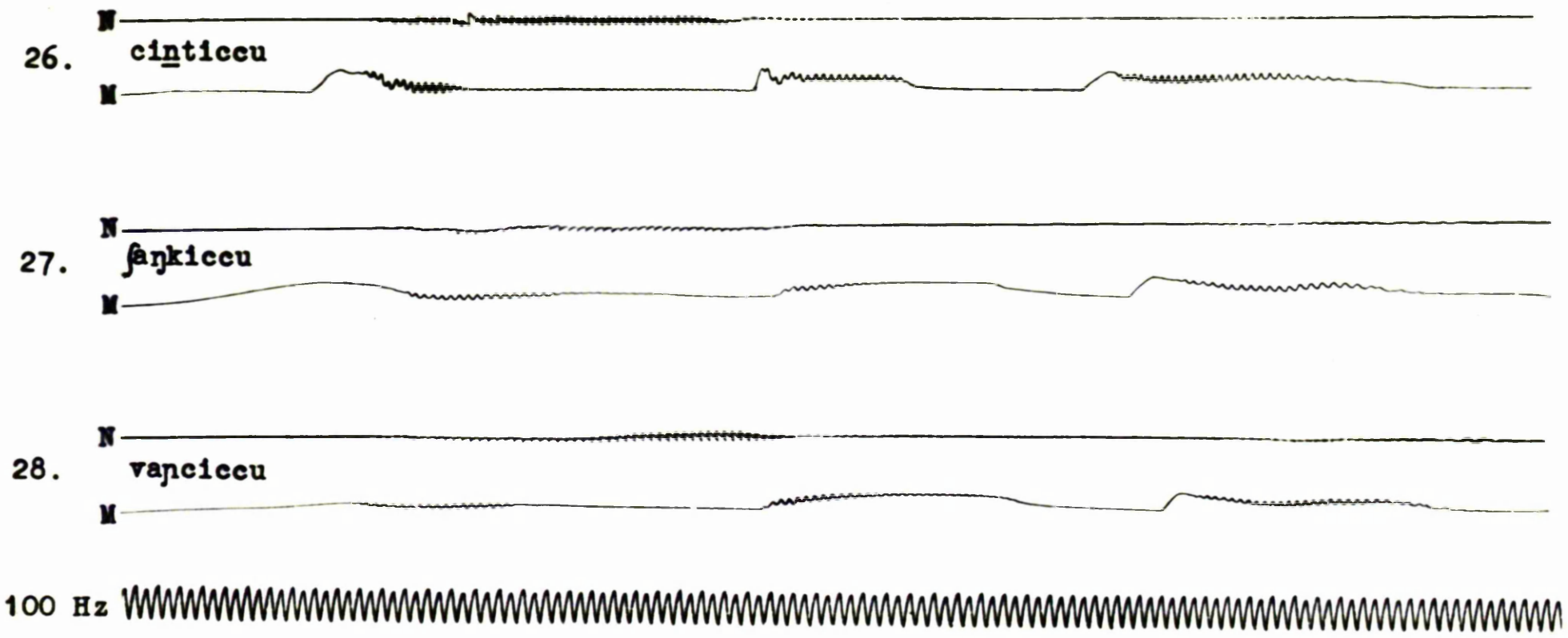
16. puujiccu

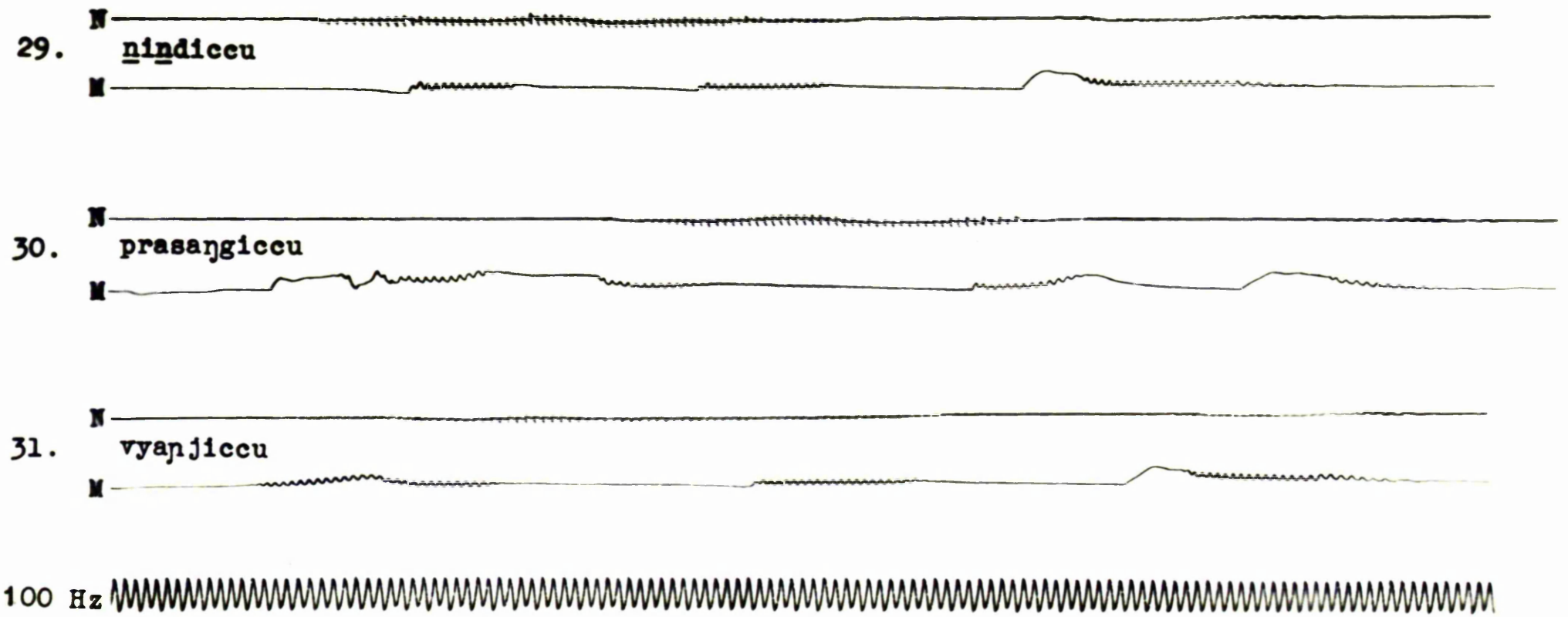



L
17. phalam
M
L
18. bhayam
M
L
19. kheedam
M
100 Hz


L
20. ghoosam
M
L
21. mathiccu
M
L
22. vadhiccu
M
100 Hz


N
23. minnunnu
M
N
24. nookkuu
M
N
25. tappum
M
100 Hz


N
26. cinticcu
M
N
27. ʃaŋkiccu
M
N
28. vaŋciccu
M
100 Hz


29.
nindiccu
30.
prasaŋgiccu
31.
vyaŋjiccu
100 Hz

phase up to a few centiseconds after the release of the medial /cc/ shows that both these articulations are voiceless.

VOICE OF VOWELS AND DIPHTHONGS

.2.9 It may also be of interest to note that the kymograms 1 - 6 discussed above furnish adequate evidence for the voice of medial long vowel articulations. Note that in all cases the portions of the larynx tracing approximately corresponding to the medial long vowel articulations show regular wave forms testifying to the vibration of the vocal cords during the articulation concerned.

See, in this connection the larynx tracings approximately corresponding to the medial diphthongs in /gauniccu/ (KM7) and /vaiki/ (KM8) and also to different short vowel articulations available in utterances of which kymograms are given to illustrate various other points in this chapter.

MEDIAL SHORT PLOSIVE ARTICULATIONS

).2.10 Intervocalically short plosive and affricate articulations in the language are typically voiced.

Compare the mouth and larynx tracings in the following kymograms: 9. /oo ɾ iccu/ 'made run', 10. /taa ɖ iccu/ 'beat (past)', 11. /pookum/ 'will go', 12. /bhaagam/ 'part' 13. /matam/ 'opinion' and 14. /madam/ 'intoxication'.

In /oo ɾ iccu/ the larynx tracing shows continuous wave forms from the beginning of the intial vowel /oo/ up to the shutting phase of the medial long affricate /cc/. This indicates that /ɾ/ constituting the interlude between the first two syllables of the utterance is voiced. The articulations represented as /ɾ/ in /oo ɾ iccu/ and as /ɖ/ in /taa ɖ iccu/ are

kymographically indistinguishable (see KMs 9 and 10) because both give continuous wave forms on the larynx tracings and the upward displacement on the mouth tracings at their releasing points is very little.

As regards /pookum/ regular wave forms on the larynx tracing start a few centiseconds after the release of the initial /p/ and continue till the end of the utterance. This is clear evidence for the voice of inter-vocalic /k/. This kymogram can be compared with the larynx tracing of /bhaagam/ which has also regular wave forms starting some centiseconds after the release of the initial plosive and continuing right up to the end of the utterance. Obviously the articulations in Malayalam transcribed as /k/ and /g/ in the intervocalic position are indistinguishable by means of the kymograms made for them.

The portions of larynx tracings approximately corresponding to intervocalic /t/ and /d/ are found to be different in kymograms 13 and 14 for /matam/ and /madam/. In /matam/ a comparatively voiceless interlude corresponding to the medial /t/ can be located on the larynx tracing between the portions corresponding to the vowels. As opposed to this, /madam/ is found to be voiced from the start to the end.

It must, however, be pointed out that the comparatively voiceless quality of the inter-vocalic short dental plosive in /matam/ in this case is not typical. Reference may, in this connection, be made to Mingograms 3 and 4 discussed elsewhere (8.3.1) in this chapter. They give clear evidence for the voice of inter-vocalic /t/ in the following utterances: /uutumkaaRRə/ and /avanuutum, kaaRRu nilkkum/.

MEDIAL SHORT AFFRICATE ARTICULATIONS

8.2.11 As in the case of medial short plosive articulations all inter-vocalic short affricate articulations occurring in Malayalam are typically voiced.

See kymograms 15 for /raciccu/ 'drafted' and 16 for /puujiccu/ 'worshipped'.

No portion of the larynx tracing without regular wave forms and corresponding to the interlude between the vowel articulations of the first and second syllables can be located in either case. This is adequate evidence for the voice of both /j/ and /c/ in these utterances.

ASPIRATED PLOSIVES

8.2.12 It has been pointed out in 1.23.4 that there is practically no distinction between voiced and voiceless varieties of aspirated plosives in my idiolect. Compare the following pairs of kymograms providing mouth and larynx tracings for the verbal forms 17. /phalam/ 'result' and 18. /bhayam/ 'fear'; 19. /kheedam/ 'grief' and 20. /ghooṣam/; 21. /mathiccu/ 'churned' and 22. /vadhiccu/ 'killed'.

The mouth tracings corresponding to the initial syllables of the first four words and the medial syllables of the last two cited above provide clear evidence for their aspiration, since the tracing does not return to the horizontal base line even during the articulation of the vowel sounds.

The closure phase of the plosives in all the six cases can be seen to be voiceless since there are no regular wave forms on portions of the larynx tracing immediately preceding the releasing point of the plosive which can be located by comparison with the mouth tracing. Aspiration which is "a period of voicelessness that follows the voiceless closure phase" (Abercrombie 1967 p.148) of a plosive continues in each case for some

centiseconds beyond the release phase of it. The voicing for the vowels that follow the plosive starts only after this.

NASALIZATION OF VOWELS

8.2.13 Nasalization of vowels occurring between ,after or before nasal consonants has been pointed out in 1.5, as a phonetic feature of the language. Nose and mouth tracings provided by kymography give ample evidence for this. See kymogram 23 for /minnunnu/ 'shine' (pr.) in which the nose tracing shows regular wave forms from the beginning till the end of the utterance. This indicates that the nasal passage was not closed during any part of the utterance. That is to say, the medial /i/ and /u/ both of which occur between nasal consonants and the final /u/ occurring immediately after a nasal are nasalized.

In /nookkuu/ 'see' (MK24) the vowel in the first syllable, occurring after the nasal is nasalized whereas that is the second syllable occurring after the long velar plosive is not. Note that the wave forms in the nose tracing cease approximately at the shutting phase of /kk/.

In /tappum/ 'will grope' (MK25) the wave forms on the nose tracing start only after the release of /pp/. This is adequate evidence for the absence of nasality on the first syllable of the utterance and the presence of it from a few centiseconds after the beginning of the pre-nasal vowel in the second syllable.

Note that it is the presence of this nasality in the future suffix which has been given expression in the phonological formula proposed for the future suffix employing the tilde over the symbol for the syllabic unit: $-\tilde{\partial}^{w}$ (see 7.4).

NASALITY IN NASAL PLUS HOMORGANIC PLOSIVE OR AFFRICATE CLUSTERS

.2.14 Compare the mouth and nose tracings provided by kymography for the following three pairs of marginal verbal forms:

/cin̲ticcu/ 'considered' and /nin̲diccu/ 'despised' (KMs 26 & 29)

/ʃaŋkiccu/ 'hesitated' and /prasaŋgiccu/ 'lectured' (KMs 27 & 30)

/vaɲciccu/ 'cheated' and /vyaɲjiccu/ 'was implied' (KMs 28 & 31)

Kymograms 26 - 28 are characterized by one common factor: In none of them does the nasality indicated by the regular wave forms on the nose tracing extend to the second syllable. Similarly kymograms 29 - 31 also have a common feature characteristic of them: Once started, the nasality in them extends through the arresting consonant articulation (3.3.1) of the syllable to the whole or the major part of the length of the nuclear vowel in the next syllable.

These findings are in agreement with what has been stated in 1.34.3 regarding the usual pronunciation of marginal homorganic nasal plus plosive or affricate clusters in the language. This instrumental evidence is, therefore, an additional support to the phonological treatment that has been proposed for homorganic non-identical element clusters like /n̲t, n̲d, ŋk, ŋg, ɲc/ and /ɲj/ in terms of marginal NP-tense versus marginal NP-lax systems (3.17.6).

SYLLABLE QUANTITY AND DURATION

8.2.15 Durational differences among comparable utterances can be correlated with the stating of the prosody of syllable quantity (3.6).

Attention is drawn at this point to kymograms 32 - 37 which give mouth tracings for six disyllabic verbal forms that may function as one-word

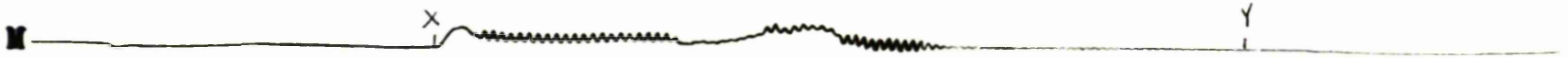
sentences in appropriate contexts. The duration of these utterances measured as the length of the trace in terms of centiseconds countable between the starting and ending points of wave forms (X and Y marked on the kymographic tracings),[1] the utterances and their quantity patterns are given in Table 8.1 for convenience of comparison.

No. of KM.	The utterances	Quantity pattern		Duration in cs.	
		Syl.1.	Syl.2.	X-Y	Vowel in Syl.1.
32	1. ke⌈um	L	H	60	14
33	2. tee⌈um	H	H	80	38
34	3. po⌈i	L	L	54	15
35	4. vaiki	H	L	70	—
36	5. ko⌈⌈i	H	L	70	7
37	6. koo⌈⌈i	H	L	76	23

TABLE 8.1

The second syllable in /ke⌈um/ and /tee⌈um/ is heavy and that in utterances 3 - 6 light. The first syllable in /ke⌈um/ and /po⌈i/ is light and that in the rest heavy. The quantitative difference between /ke⌈um/ and /tee⌈um/ is correlated with their durational difference which is 80 - 60 = 20 cs. Same is the case of the quantity difference between /po⌈i/ and /vaiki/ which exhibit a durational difference of 16 cs. (70 - 54). It is also noted that /vaiki, ko⌈⌈i/ and /koo⌈⌈i/ which have the same quantity pattern exhibit very little (76 - 70 = 6 cs. between 6 and 5 or 4) or no (between 4 and 5) durational difference. /tee⌈um/ is the only example in which

1. Note that this X Y does not correspond to the whole utterance, but only to a convenient delimitation common to and constant in all the utterances examined.

32. 

keʈum

33. 

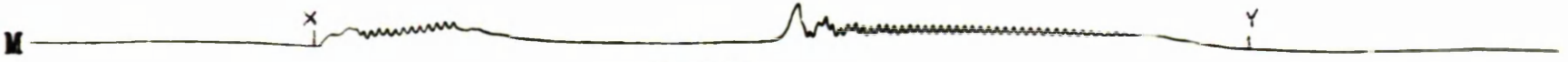
teeʈum

34. 

poʈi

35. 

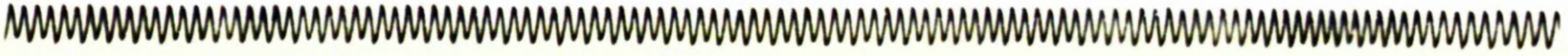
vaiki

36. 

koʈʈi

37. 

kooʈʈi

100 Hz 

both the syllables are heavy. Its duration is, understandably, the greatest.

Further, all these kymograms underline the fact that syllable-quantity is not associated with the duration of vowel articulation only. The vocalic wave forms corresponding to the nucleus of the first syllable of the utterances cited above are identifiable in most of these kymograms since they can be delimited by noting the displacements of the mouth tracing indicating the plosive articulations. (In regard to /vai ki/ the starting point of the diphthong is difficult, if not impossible, to locate). The measurements of these vocalic wave forms given in the last column of Table 8.1 show that the duration of vocalic articulation does not in all cases correspond to the prosody of quantity stated for the syllable.

DISCUSSION OF MINGOGRAMS

8.3.0 The four mingograms provided in this thesis are prepared with the aid of "Siemens Direct-writing Jet Oscillograph" which goes under the trade names "Oscillomink" or "Mingograph". The mechanical transfer system on the Kymograph is replaced on the Mingograph by an electronic one by means of which the oscillographic registration is effected on a moving strip of paper by a minute jet of ink under pressure. The Mingograph is, therefore, much more sensitive than the Kymograph. The output of the machine is ready for use by the investigator on the spot and does not require any processing similar to that needed in regard to Kymograms. Above all, registration of considerably long utterances can be made at one go on the Mingograph.

Each mingogram included in this study provides the oscillogram (marked as Osc.) of the utterance under investigation. The intensity line (marked as Int.) recorded just above the oscillogram provides a means of

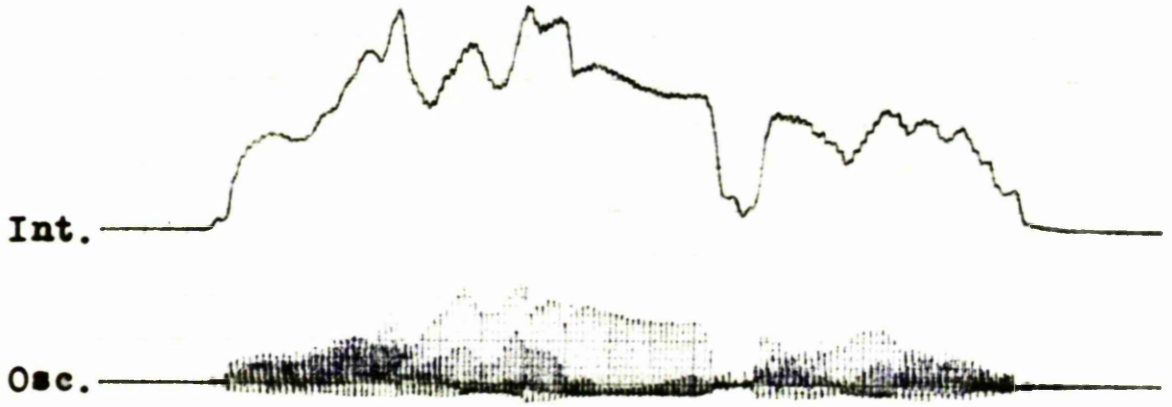
estimating the intensity of any desired part of the utterance. A time marker tracing (50 cycles per second) is given below every oscillogram so as to help measure the duration of any part of the utterance that can be delimited by comparing the oscillogram and the intensity line.

8.3.1 This section is intended to furnish sufficient mingographic evidence that can be correlated with perceptional differences between utterances involving different types of junction (see the examples discussed in 7.14.8).

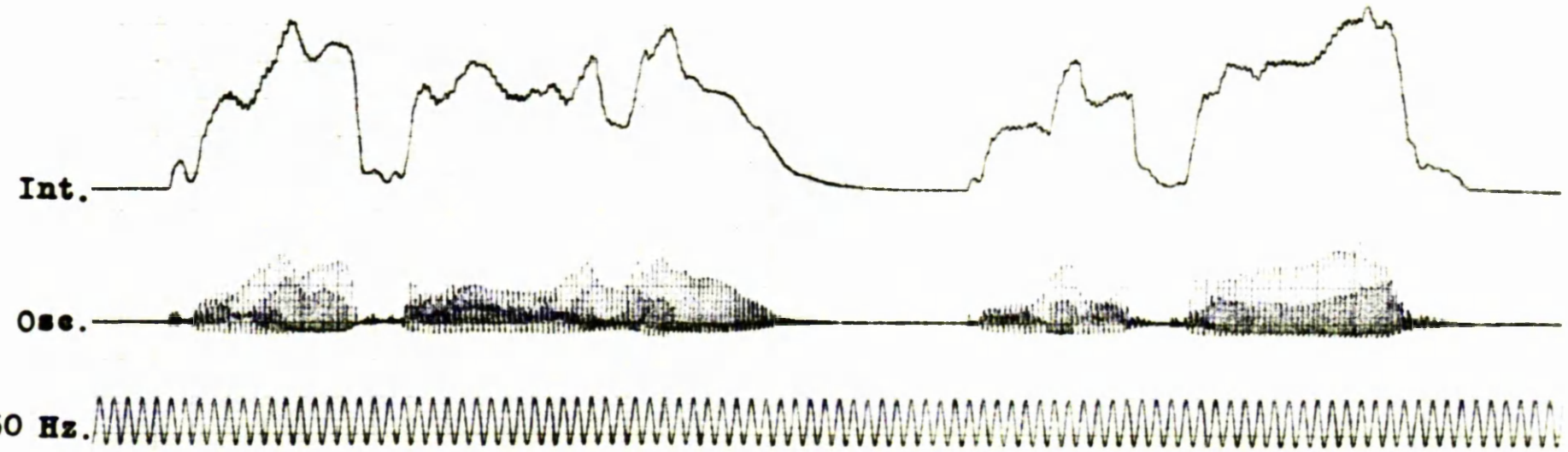
Mingograms 1 and 2 register oscillograms for (1) /taaɣumtala/ '(the) head which will bow down' and (2) (kai taaɣum, tala poŋŋum/ '(the) hand will drop (and the) head will rise'. Utterance 1 involves the junction of a relative participle form ending in the future suffix with a P initial nominal form. Utterance 2 is a sequence of two sentences. The final word of the first sentence in this sequence is a finite verbal form ending in the future suffix. The second sentence begins in a P-initial nominal form.

The point of release of the initial dental plosive in /tala/ in mingogram 1 can be located by noting the point at which the deflection of the intensity line from the zero level is minimum. The presence of regular wave forms on the oscillogram even just before this point indicates that this plosive voiced.

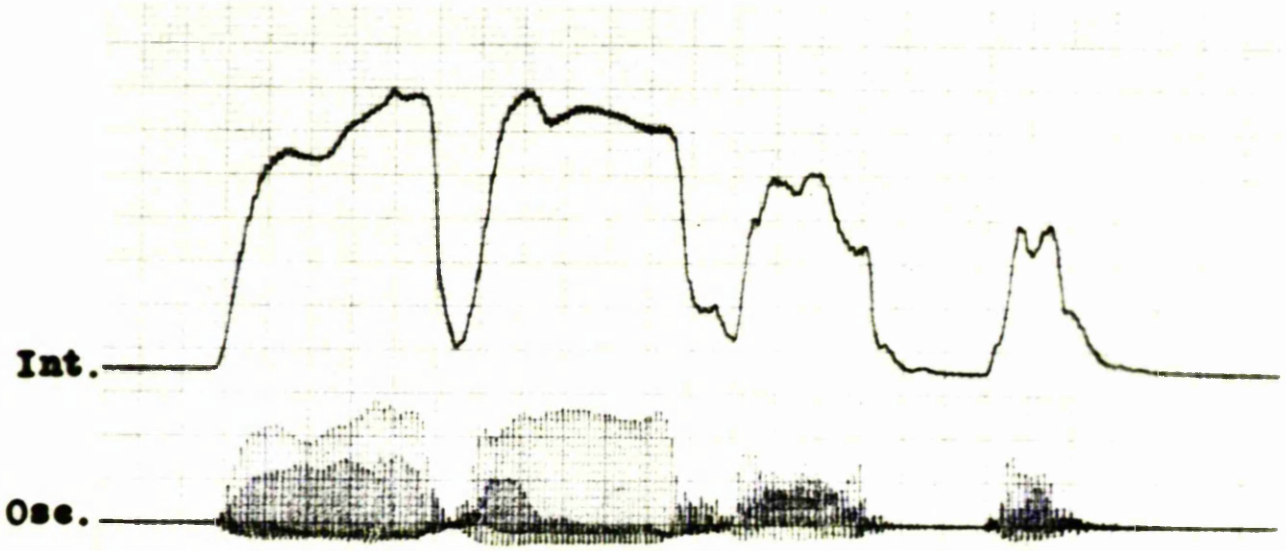
Now compare this with mingogram 2, in which, between the tracings for the two sentences /kai taaɣum/ and /tala poŋŋum/ there is a conspicuous period of voicelessness marked on the oscillogram. The intensity line touches the zerolevel and keeps that level throughout the distance corresponding to the period of voicelessness recorded by the oscillogram.



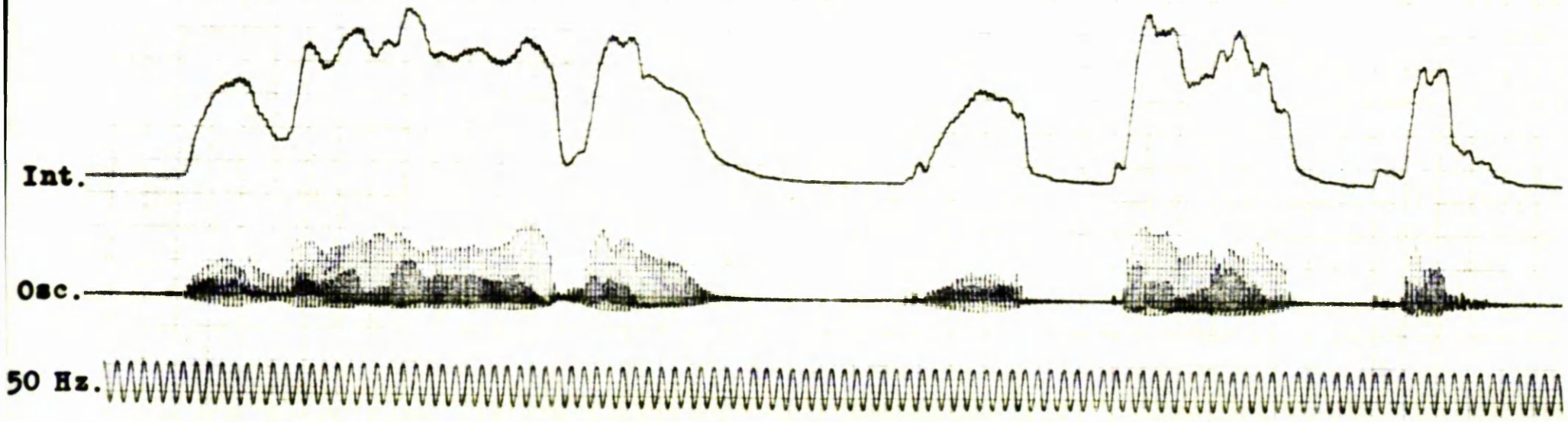
1. taaɾumtala
[n̲]



2. kaitaaɾum, tala poŋŋum



3. uutumkaaRRə
[ŋ]



4. avanuutum, kaaRRun̲ilkkum

This is, therefore, a clear instrumental abstraction supporting the statement made in 7.18 that there is an articulatory break between the /m/ which ends sentence 1 and the /t/ which begins sentence 2.

Mingograms 3 and 4 facilitate comparison of some features of inter-word junction in the utterance /uutumkaaRRə / and inter-sentence junction in /avanuutum, kaaRRunilkkum/. The former is a relative participle plus noun construction meaning 'the wind which will blow' and the latter a sequence of two sentences meaning 'he will blow (and then) the wind will stop'. The perceptible articulatory break between the two sentences in the second utterance can be correlated with the period of voicelessness recorded on the oscillogram before the releasing point of /k/ which begins the second sentence. It may also be noted that the corresponding portion of the intensity line records zero intensity during the period.

DISCUSSION OF SPECTROGRAMS

3.4.0 Seventeen spectrograms are provided in this section. They are all made with the aid of "Kay Sonagraph" (Kay Electric Company, Pine Brook, New Jersy) by recording my own pronunciation of the examples cited and setting the machine to use the wide band filter (of. 300 cps). The resultant portrayal on dry fascimile paper, of the utterance known as "Spectrogram" or "Sonagram" displays (1) frequency in the region 85 - 8000 cps along the vertical axis in a distance of 4" (2) time along the horizontal axis, for a distance of approximately 12½" covering 2.4 sec. and (3) intensity as light or dark areas with the higher energy levels producing the darker regions.

A transparent grid provided in the special pocket attached to the back cover of this thesis may be used to measure the duration of any desired part of the utterance under investigation. Using the same grid the frequency

of any well defined harmonic can also be read against the scale and its fundamental frequency calculated.

To facilitate more accurate interpretation of the average amplitude at any given point of the utterance, an accessary instrument to the spectrograph namely the "Amplitude Display Unit" has been used. This provides a permanent record of the variation of average amplitude versus time on the upper third of the spectrogram paper. The intensity of any particular part of the utterance and the deflection of the amplitude line from the base line (both marked on spectrogram 1) are directly proportional to each other.

Most of the spectrograms studied in this section portray utterances that have already been examined in chapter 7 in one connection or other. Even when new examples were selected in conformity with the restriction on the duration of utterances that can satisfactorily be studied by the technique of spectrography, care was taken to ensure that they involve the same problem as those investigated in chapter 7.

Correlation of spectrographic findings with
the stating of g - and ɡ - prosodies:

.4.1 Reference may be made, in this connection, to spectrograms 1 - 5, 7 and 12 - 16. In each case, a pair of utterances in regard to which the prosodies of g and ɡ are functional is examined. The grammatical and phonological relations involved are indicated below:

(a) Intransitive X transitive

aaṭum 'will dance'	X	aaṭṭum 'will make dance'	SM.1
eeRum 'will rise'	X	eeRRum 'will raise'	SM.2

(b) Non-causative X causative

tinnum 'will eat'	X	tiiRRum 'will cause eat'	SM.3

(c) External junction between relative participle and finite verb and that in which a grammatical element other than a relative participle is in junction with a noun.

vanna kuṭṭi '(the) child who came'	X	annakkuṭṭ i 'elephant-child'	SM.4
kaRuttapuucca '(the) cat which has become black: the black cat'	X	ciittappuucca 'bad cat'	SM.5

(d) External junction between negative verbal participle and finite verb and that between object noun and finite verb.

ooṭaate kaṇṭu 'saw without running'	X	ennekkaṇṭ u 'saw me'	SM.7

(e) External junction between verbal participle and finite verb and that between subject noun and finite verb.

tuḷḷiccaṭ i 'having danced jumped'	X	kaḷḷi caaṭ i '(the) female thief jumped'	SM.12
ooṭippooyi 'having run went'	X	goopi pooyi 'Gopi went'	SM.13

(f) Variable-C final stems ending in plosives and verbal noun forms derived from them.

eeRum 'will rise'	X	eeRRam 'rise'	SM.14

(g) NP-lax final stems and verbal noun forms derived from it.

poṇṇ um 'will rise'	X	pokkam 'height'	SM.15

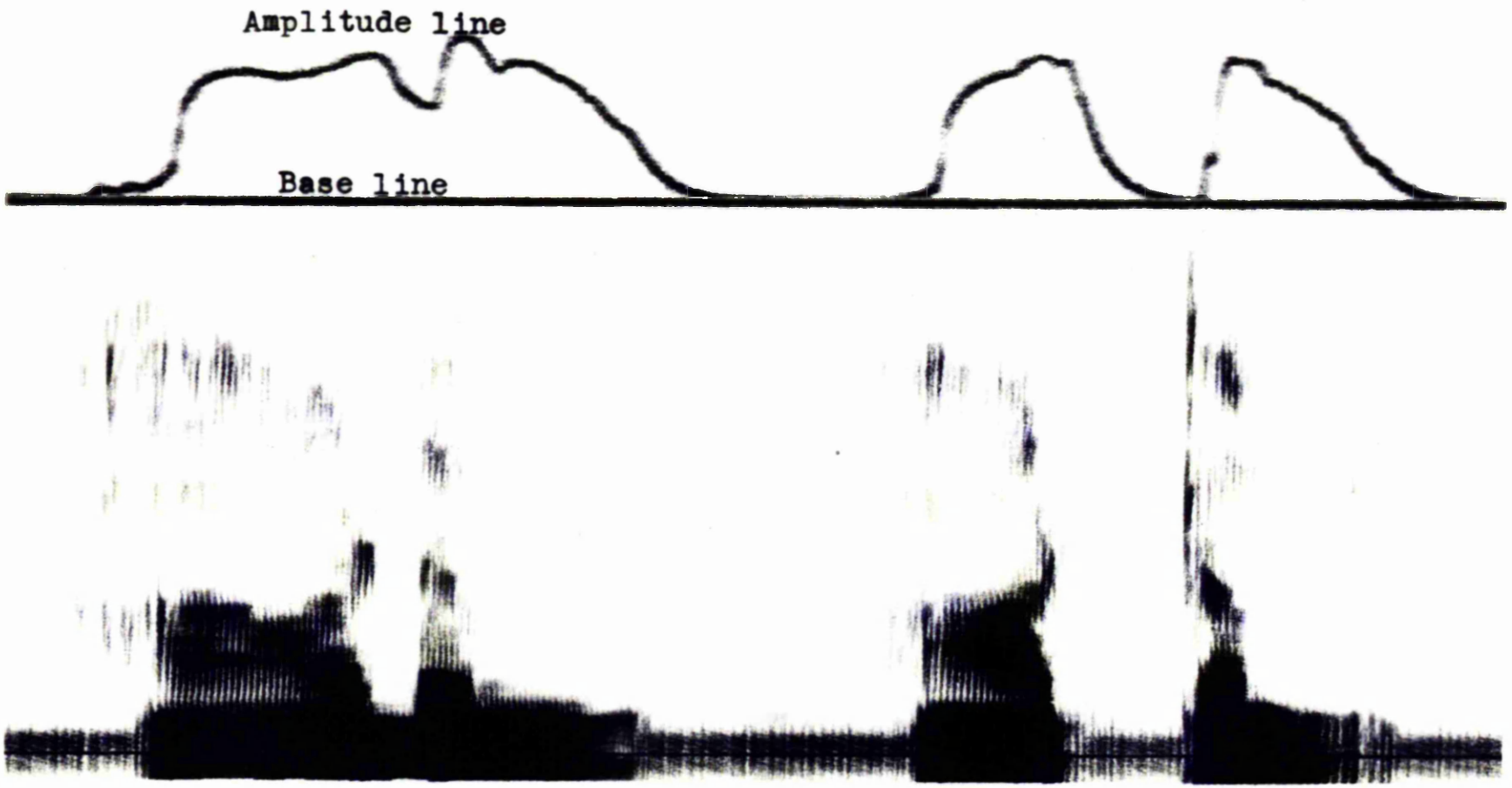
(h) Retroflex lateral final stems and verbal noun forms derived from them.

iruɭum 'will darken'	X	iru 'darkness'	SM.16

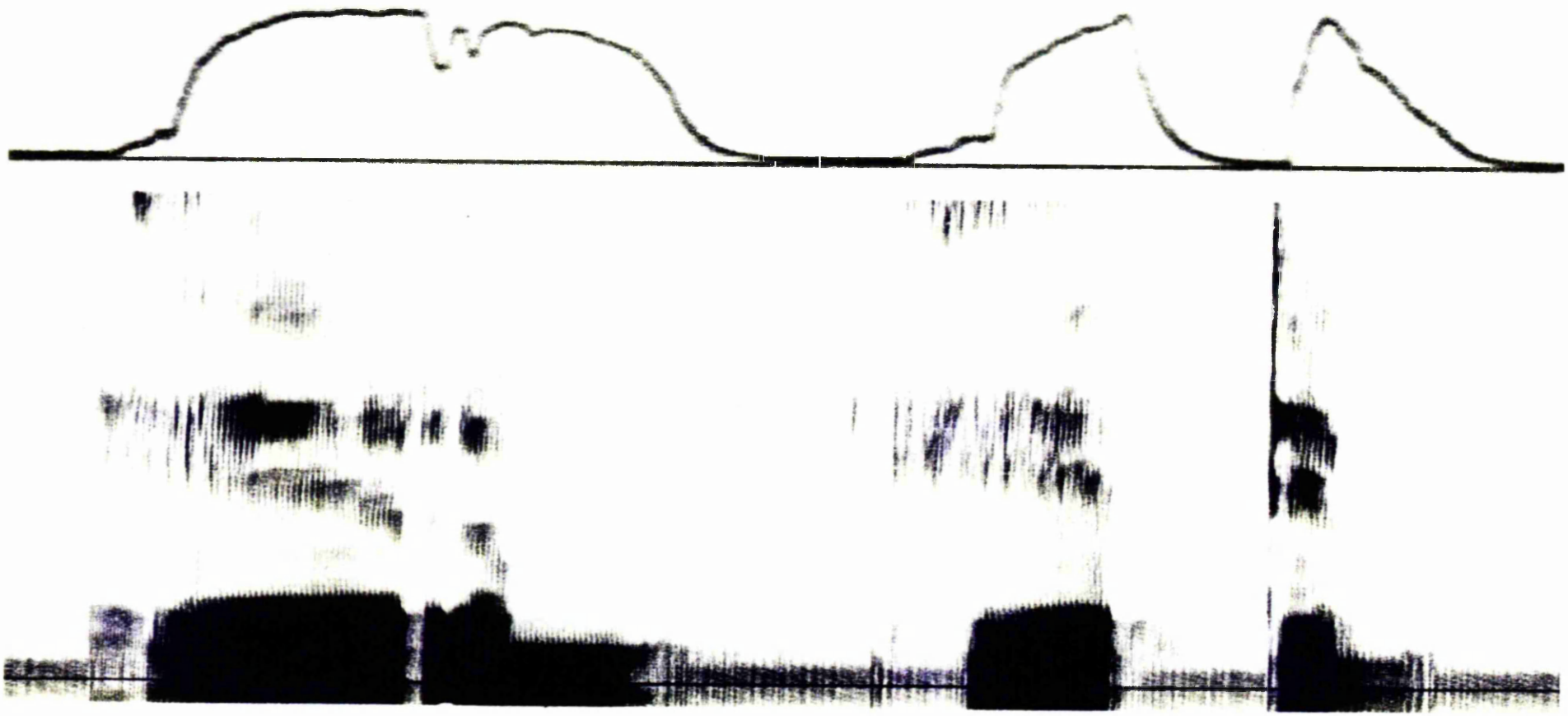
Table 8.2 lists utterances of which the spectrograms are under discussion. Cross references to the appropriate sections in chapter 7 which examine the inter-relations involved from a phonological point of view are also given. Duration of the consonantal articulations of which the length and other phonetic features are included among the exponents of the prosodies g and ɡ is measured from the spectrogram and set against each pair of utterances. All spectrograms other than 3 and 15 discussed in this section show a common feature: The plosive articulation in the g-prosodic utterance is 2 to 9 times longer in duration than the corresponding consonantal articulation in the ɡ - prosodic utterance.

No. of SM.	ɡ-prosodic utterance	Duration of relevant consonants sec.	g-prosodic utterance	Duration of relevant consonants sec.	Cross ref.
1	aaʈum	0.05	aaʈʈum	0.12	7.1.2
2	eeRum	0.02	eeRRum	0.18	"
3	tinnum	0.18	tiiRRum	0.14	7.2.3
4	vanna kuʈʈi	0.05	aanakkuʈʈi	0.13	7.14.6
5	kaRuttapuuccu	0.06	ciittappuucca	0.14	"
7	ooʈaatekaɳʈu	0.05	ennekkaɳʈu	0.12	7.15.1
12	kaɭɭicaaʈi	0.03	tuɭɭiccaaʈi	0.14	7.15.7
13	goopipooyi	0.06	ooɟippooyi	0.18	"
14	eeRum	0.02	eeRRam	0.18	7.22.1
15	poŋŋum	0.20	pokkam	0.20	"
16	iruɭum	0.08	iruʈʈə	0.21	7.22.6

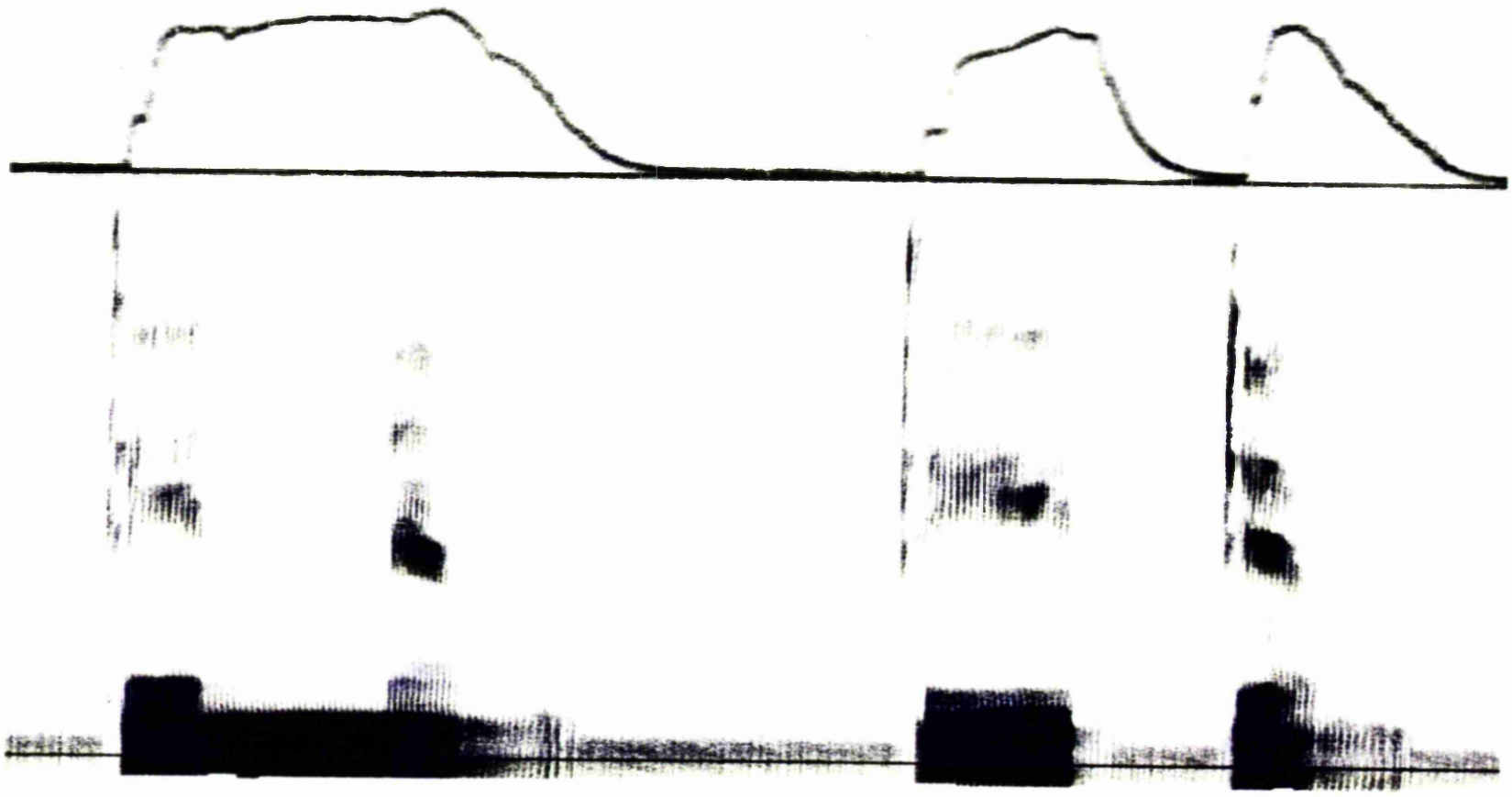
TABLE 8.2



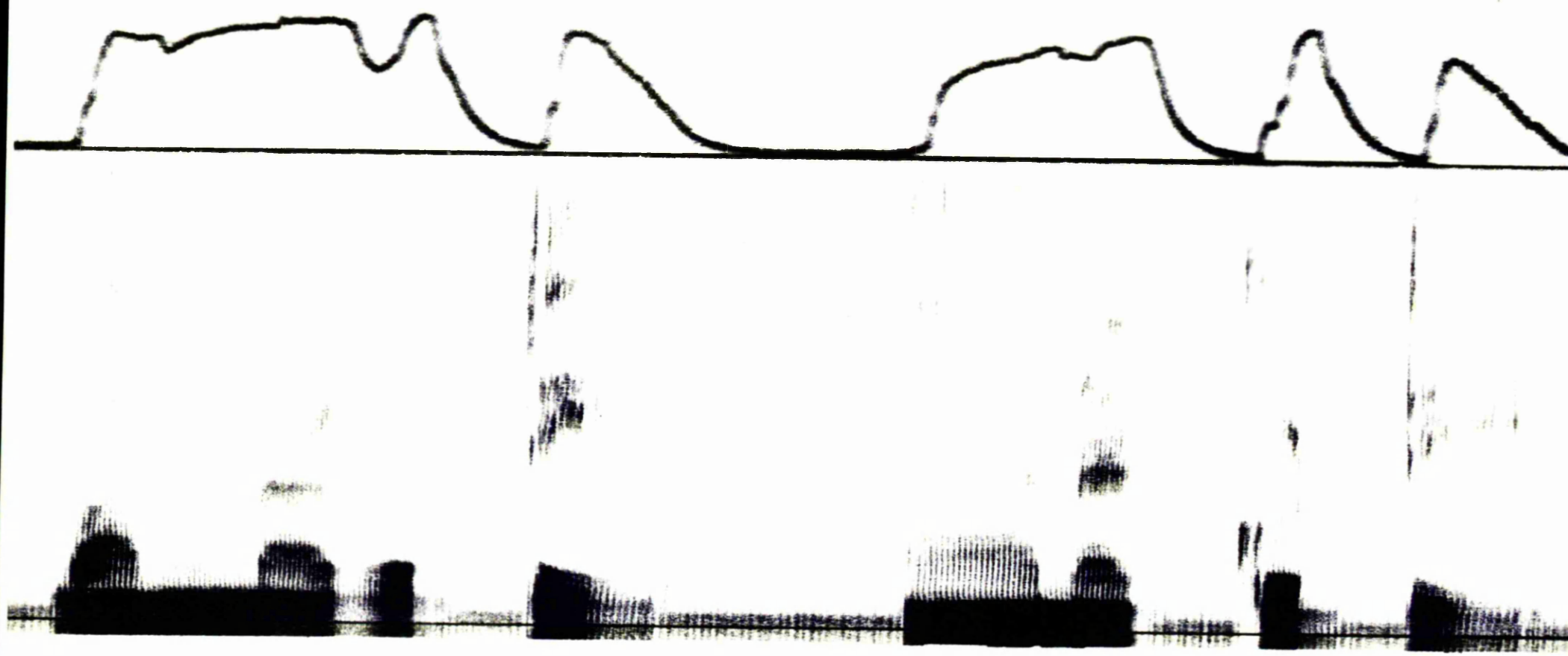
1. aaṭum aaṭṭum



2. eeRum eeRRum

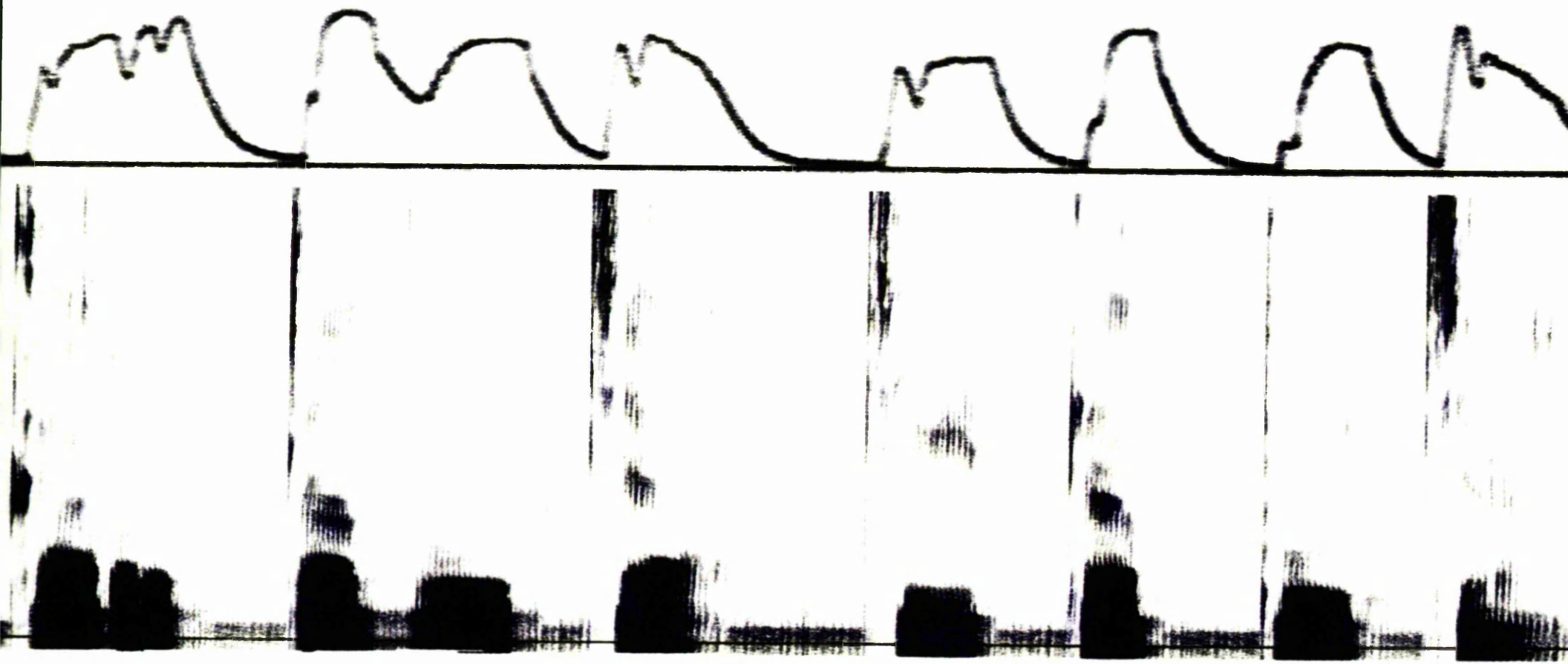


3. tinnum tiiRRum

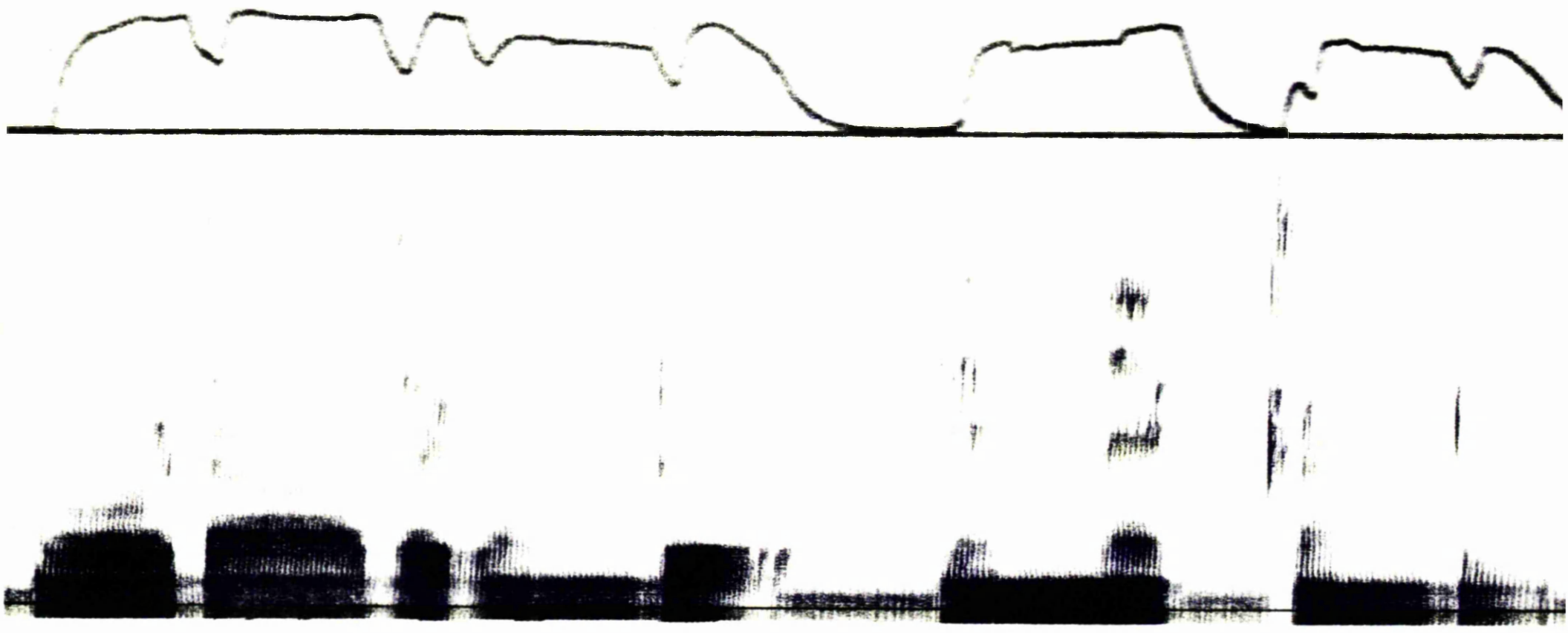


4. vanna kutti

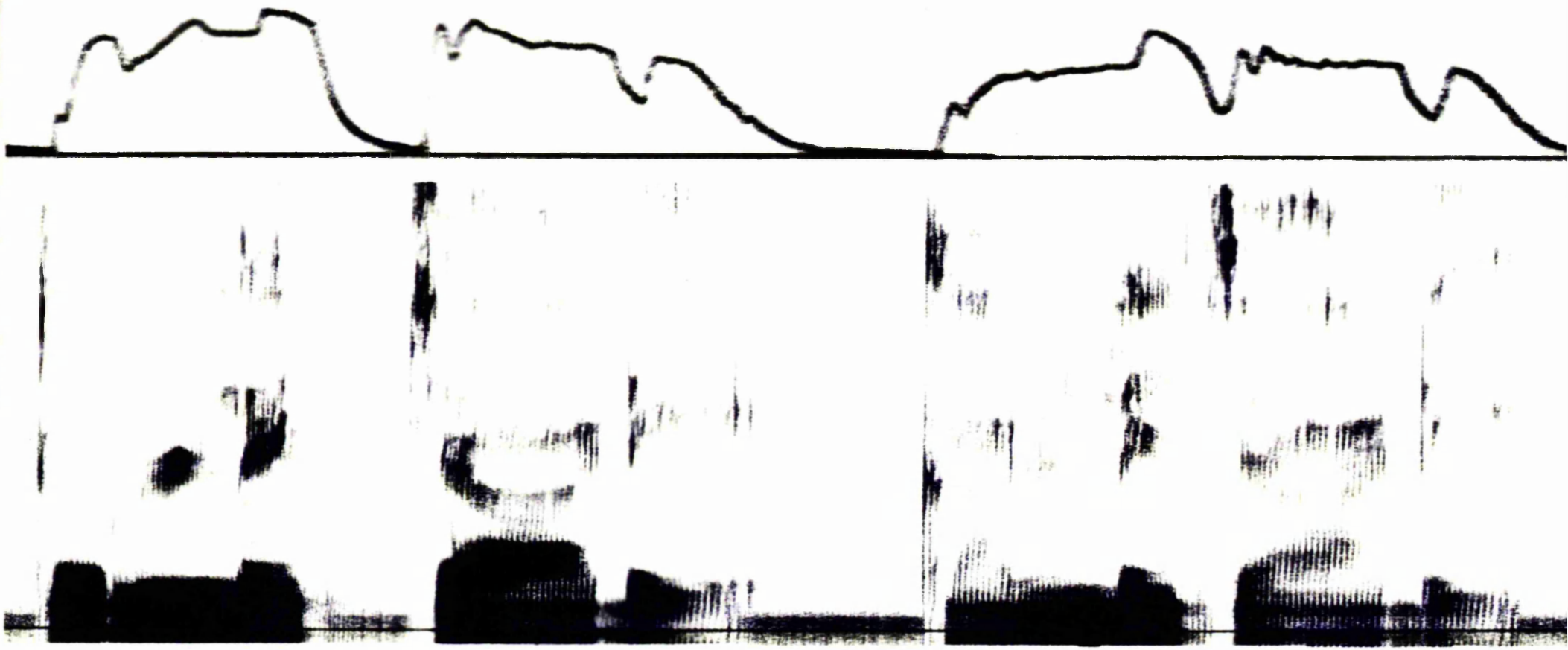
aanakkutti



5. kaRuttapuucca ciittappuucca

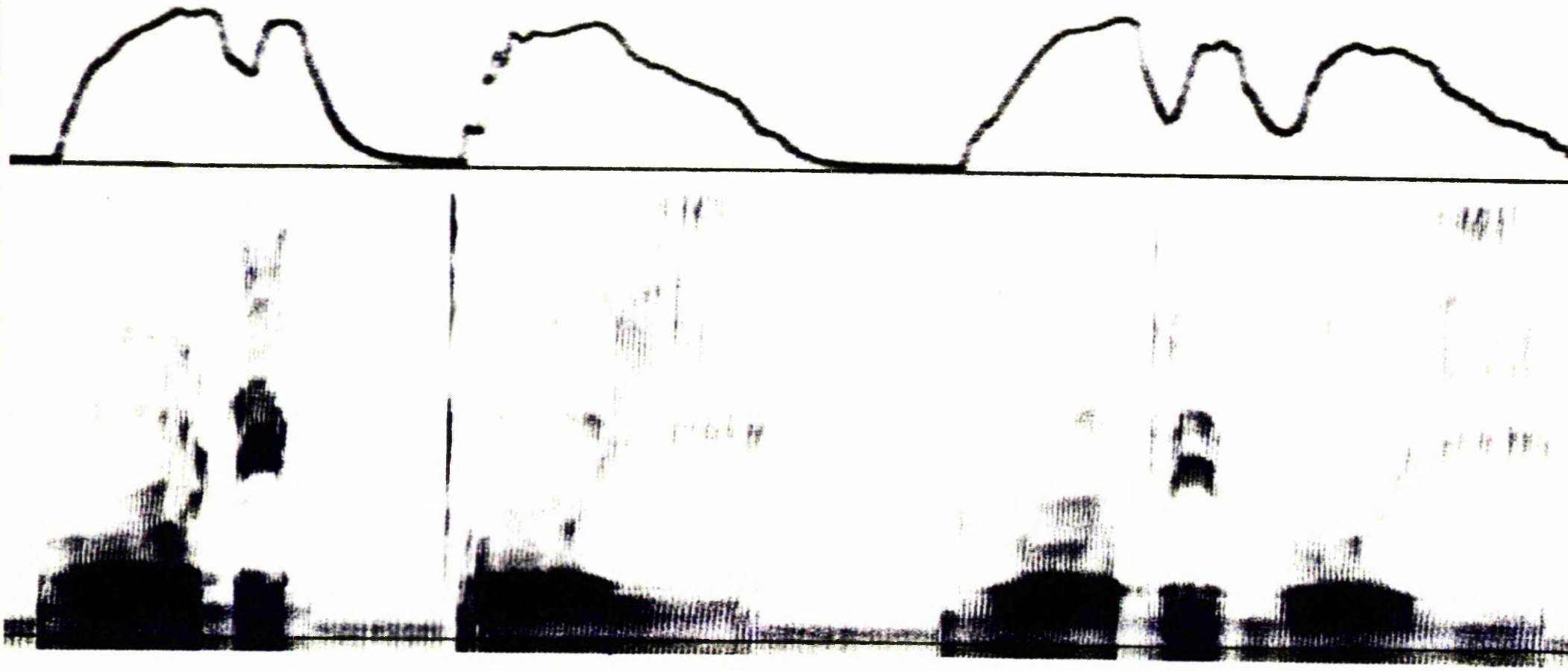


7. oo̯aatekan̯tu ennekkan̯tu



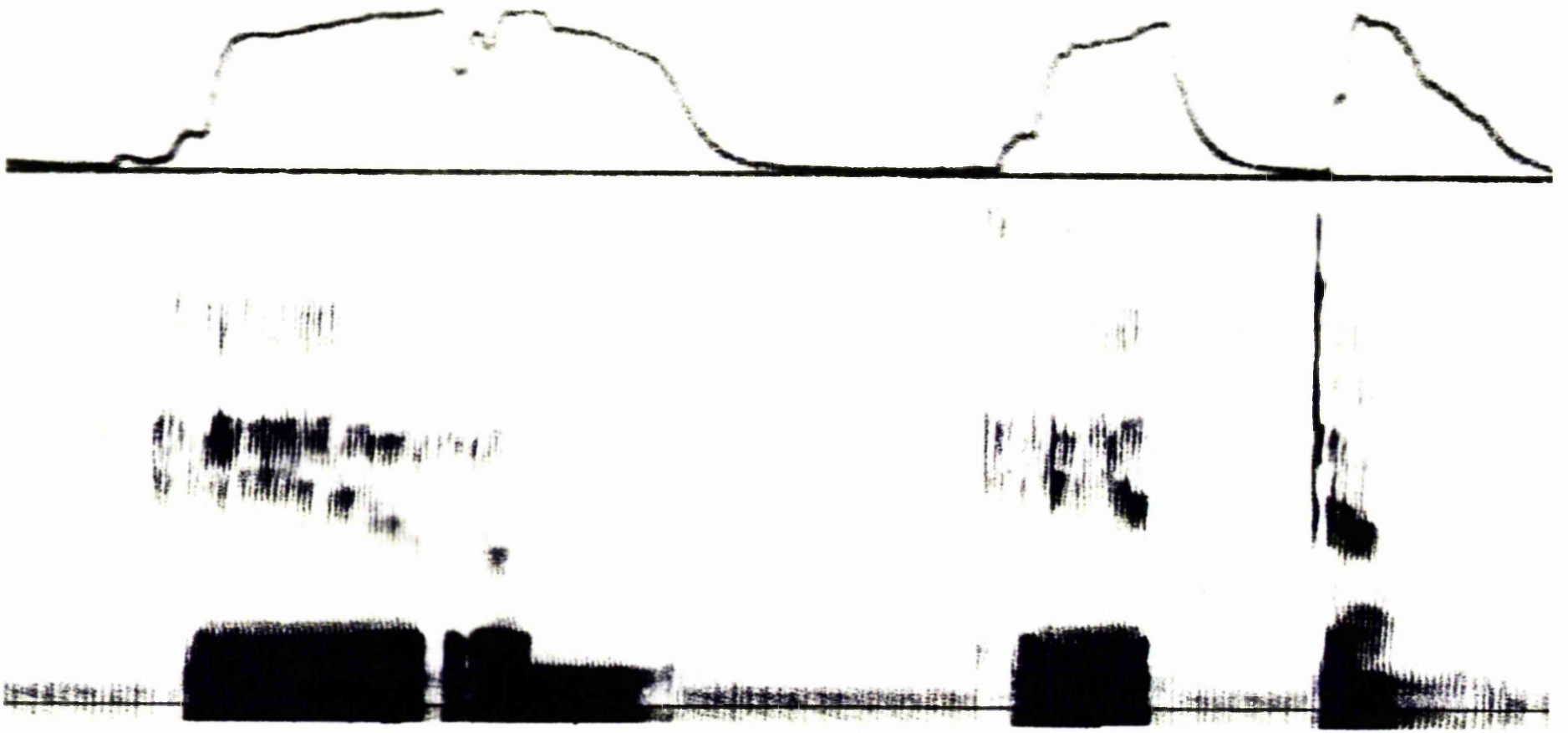
12. tulliccaaṭi

kalli caaṭi



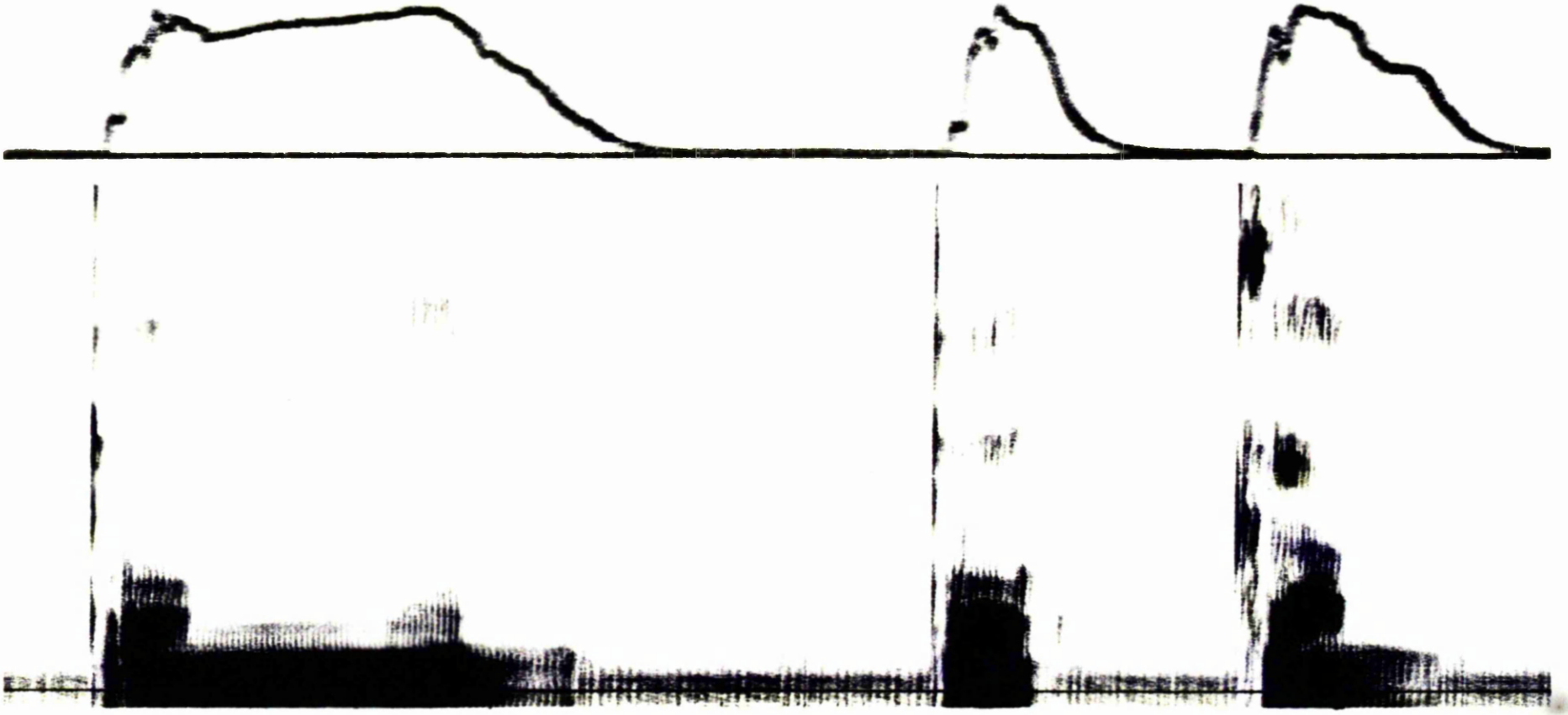
13. ooʈippooyi

goopi pooyi

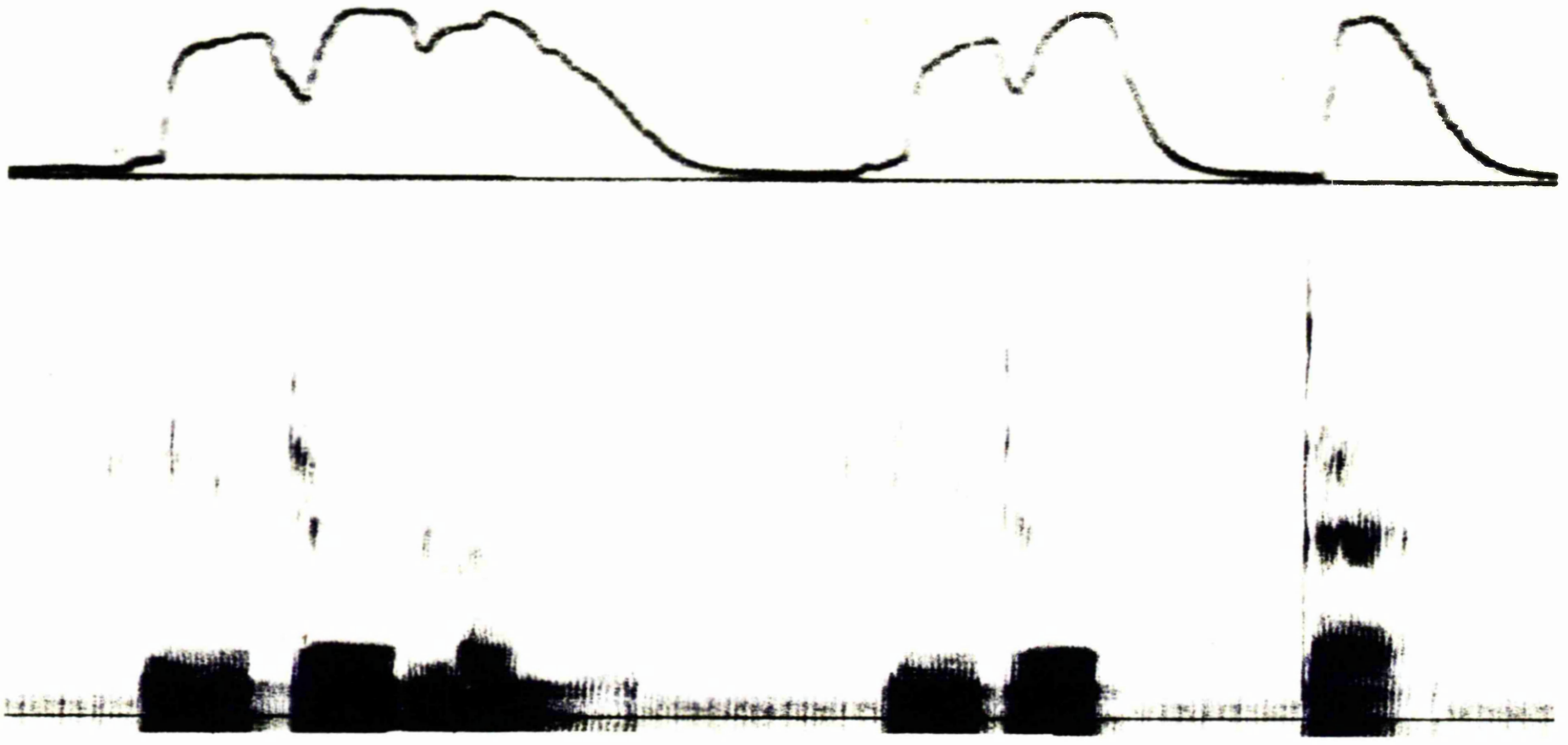


14. eeRum

eeRRam



15. poŋŋum pokkam



16. irulum irutte

In regard to spectrograms 3 and 15, however, this is not the case. The alveolar nasal in /tinnum/ is longer (0.04 sec.) in duration than the alveolar plosive in /tiiRRum/. The velar nasal in /poŋŋum/ is of the same duration as the velar plosive in /pokkam/. The point worthy of notice in regard to such forms is that the relevant articulations in ɡ -prosodic forms are fully voiced and include nasality whereas those in g-prosodic forms are completely voiceless and exclude nasality. (See 6.4.2 for the chief phonetic implications of ɡ and g). Note that the amplitude line does not come nearer to the base line during the interlude between the nuclei of the first and second syllables in /tinnum/ and /poŋŋum/. It touches the base line in portions corresponding to /-RR-/ in /eeRRum/ and /-kk-/ in /pokkam/.

In all other spectrograms also discussed here, the amplitude line keeps a level well above the base line during the portions of ~~on~~ the spectrogram corresponding to the relevant consonantal articulation in g-prosodic forms. This indicates that those articulations are voiced.

Spectrographic evidence for articulatory break between parts of utterances

8.4.2 Instrumental evidence supporting perceptionally based statements about the presence or absence of articulatory break between adjacent parts of utterances is provided by spectrograms 6 and 8 - 11. The utterances portrayed in these spectrograms involve the following inter-relations:

(a) Junction of relative participle suffix final forms and V initial nominal forms in contrast with the junction of relative participle suffix final forms and distant demonstrative pronoun •

iṭṭa amma '(the) mother who placed'	X	iṭṭavan 'he who placed'	See SM.6; 7.14.7

(b) Junction of — ə^{w} final verbal participle forms and V— initial finite verbs in contrast with the inter-relation of — ə^{w} final and V— initial finite verbs.

kaṇṭirunnu 'having seen sat: used to sit'	X	kaṇṭu irunnu 'saw; sat.'	See SM.8; 7.15.3

(c) Junction of — ə^{w} final verbal participles and C— initial finite verbs in contrast with the inter-relation of — ə^{w} final and C— initial finite verbs.

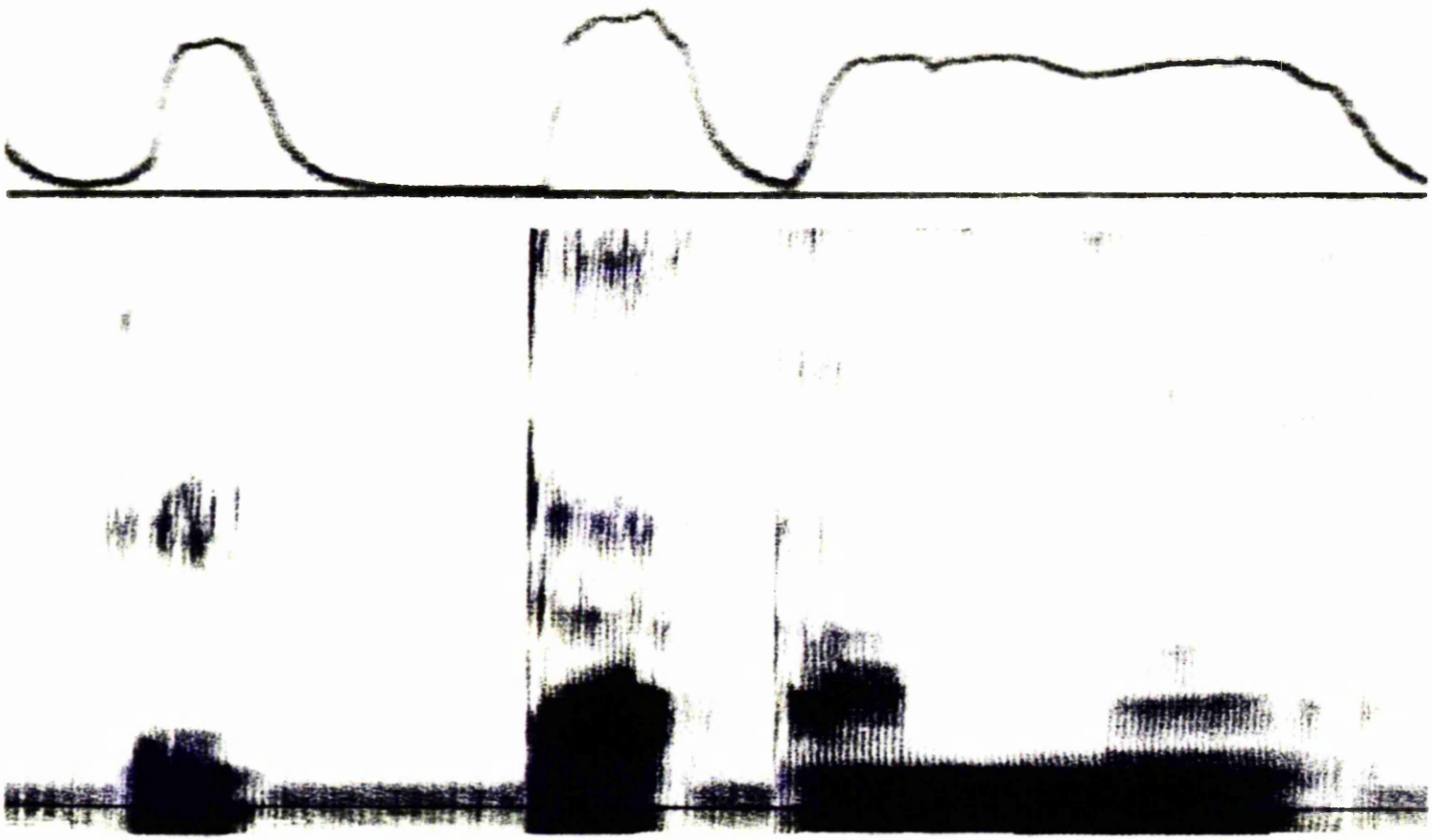
kaṇṭupooyi 'having seen went: saw quite unexpectedly'	X	kaṇṭu pooyi 'saw; went'	See SM.9; 7.15.4

(d) Junction of —I^{y} final verbal participles and V— initial finite verbs in contrast with the inter-relation of —I^{y} final and V— initial finite verbs.

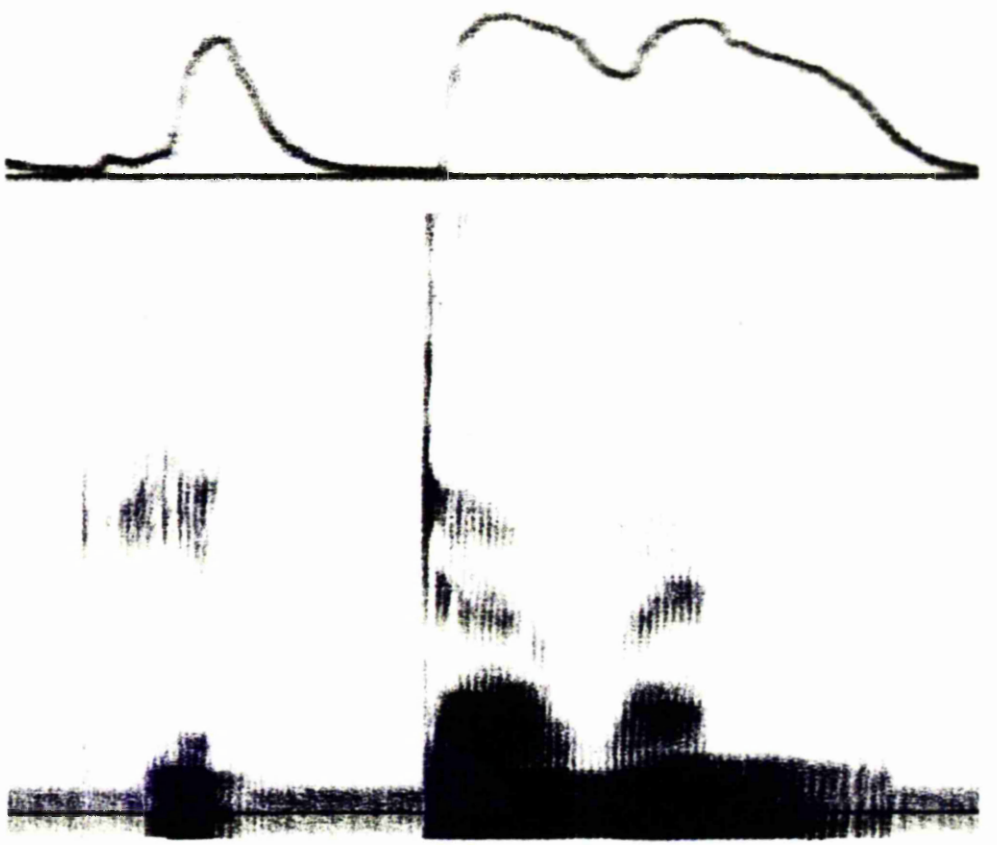
paaṭiyirunnu 'having sung sat: used to sing'	X	paaṭi irunnu 'sang; sat.'	See SM.10; 7.15.5

(e) Junction of —I^{y} final verbal participles and plosive initial finite verbs in contrast with the inter-relation of —I^{y} final ~~verbal participles~~ and plosive initial finite verbs.

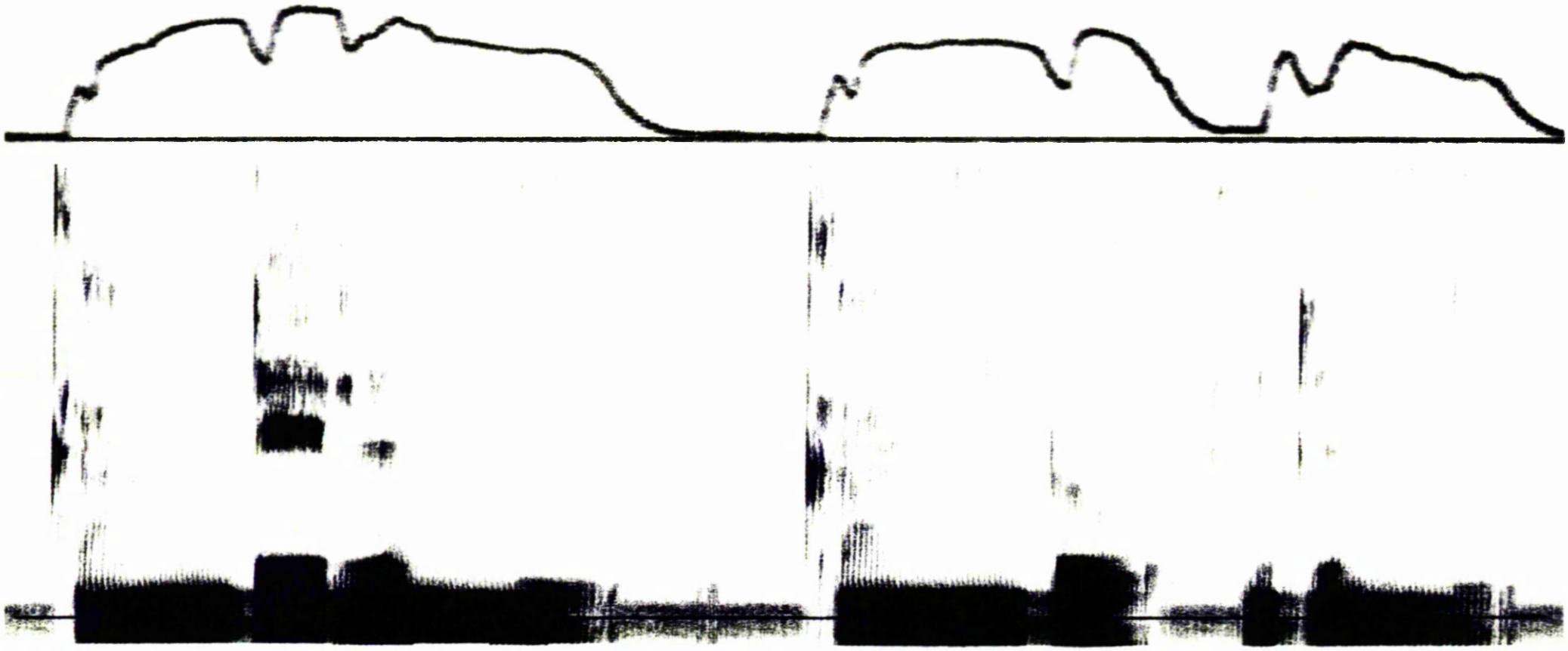
paaṭippooyi 'having sung went: sang quite unexpectedly'	X	paaṭi pooyi 'sang; went.'	See SM.11; 7.15.6



6a. itta amma

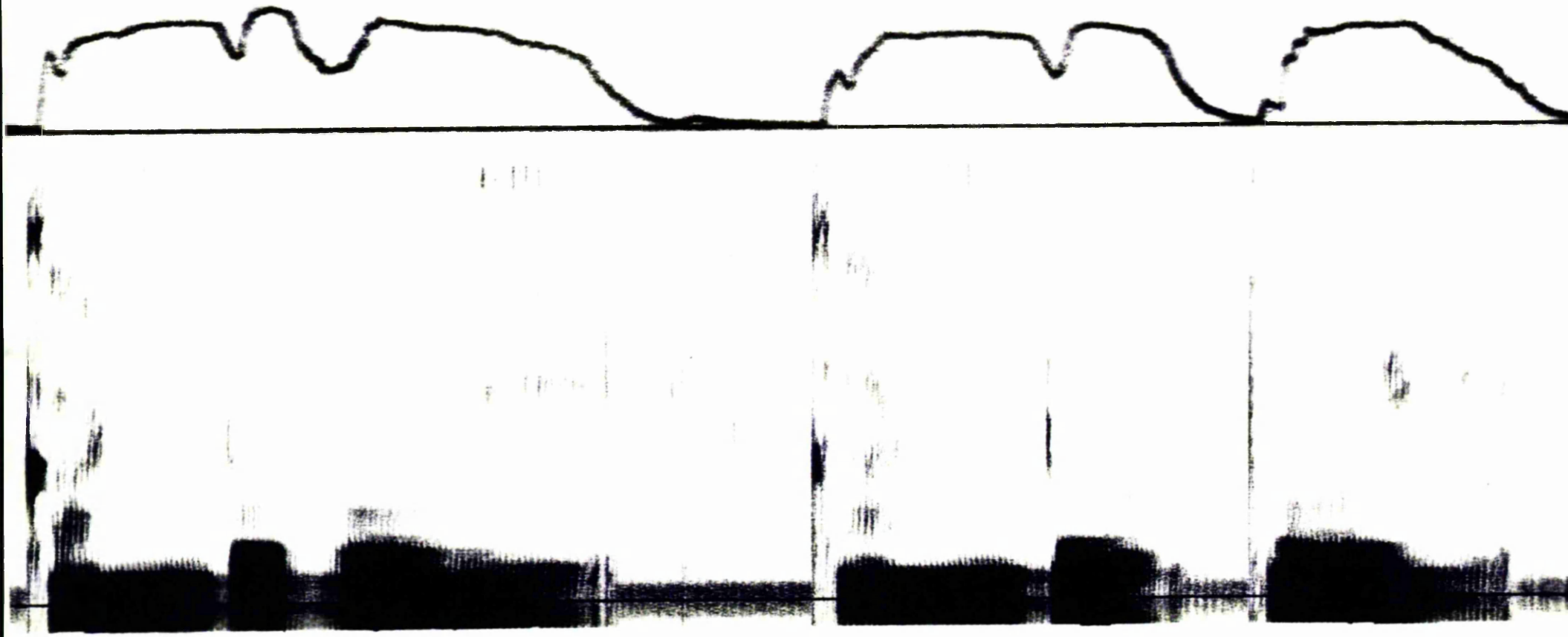


6b. ittavan

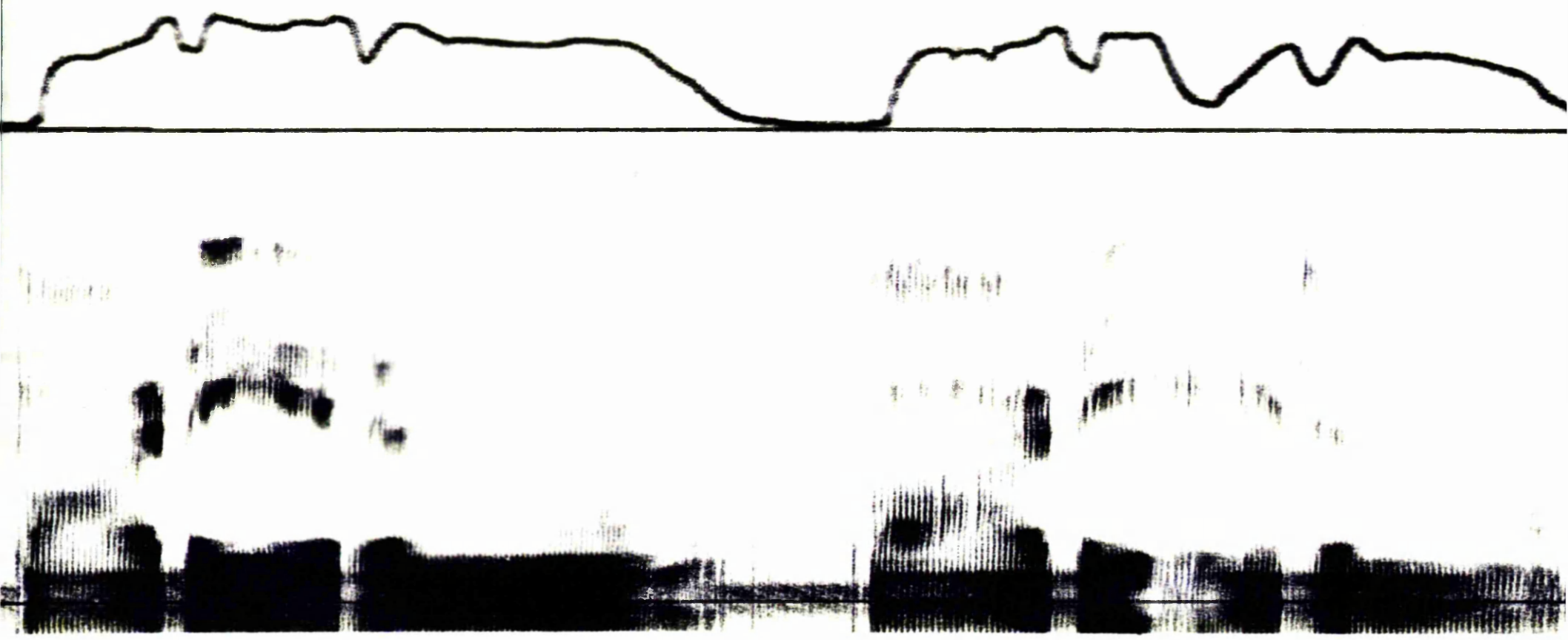


8. kaɳʈirunnu

kaɳʈu irunnu

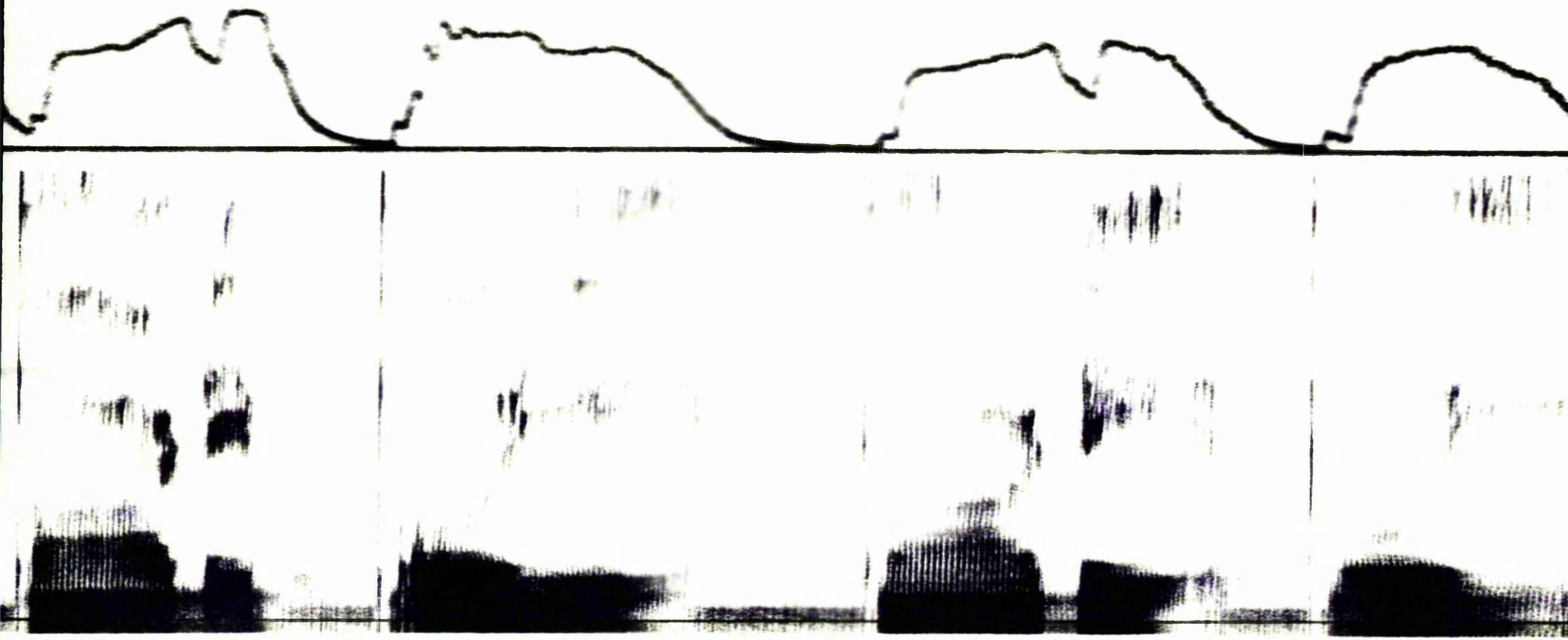


9. kaɳtupooyi kaɳtu pooyi



10. paaṭiyirunnu

paaṭi irunnu



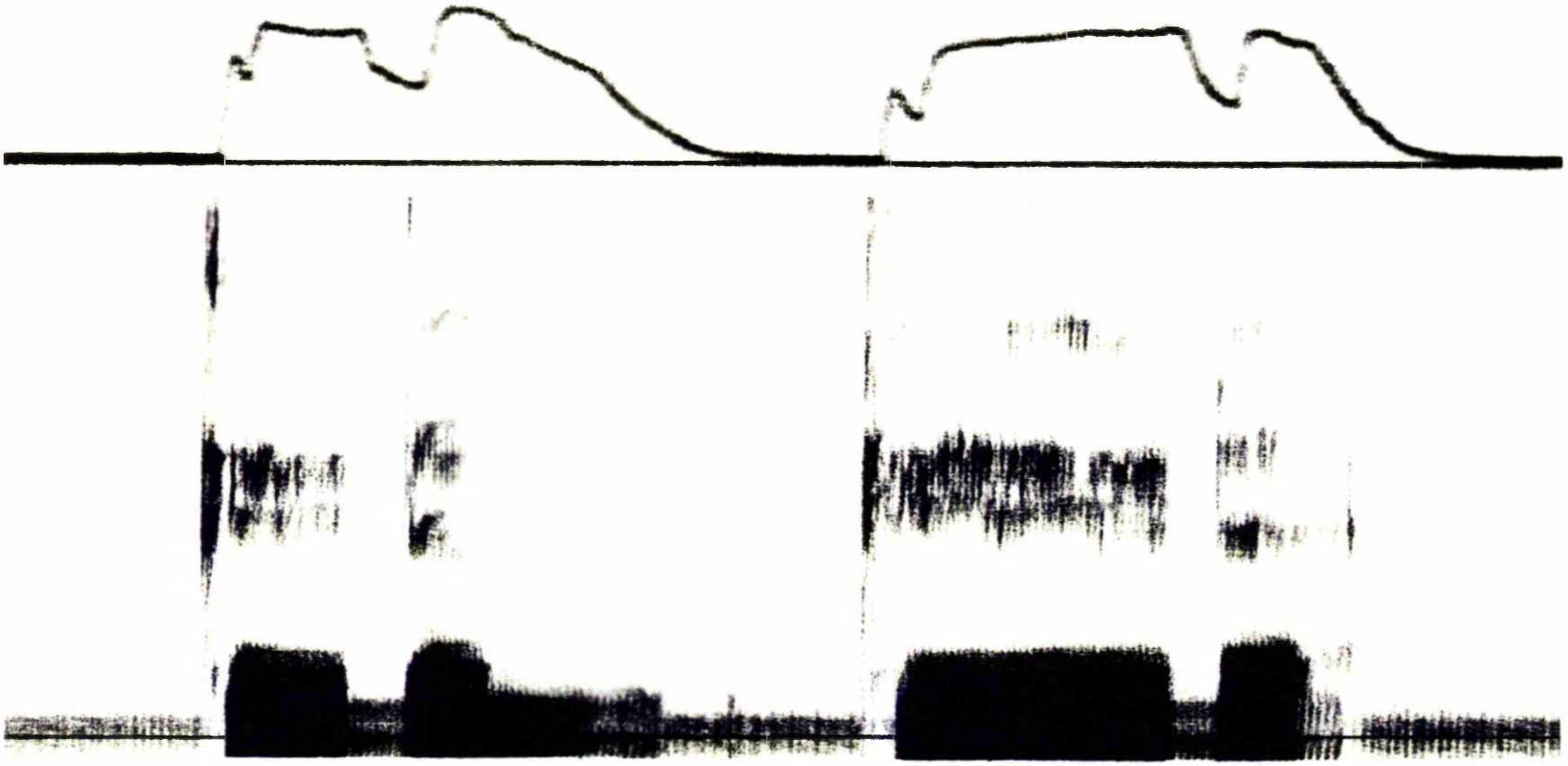
11. paaţippooyi paaţi pooyi

See spectrogram 6 facilitating comparison of the following pair of utterances: /iṯṯa amma; iṯṯavan/. Counting the number of areas where the vowel formants are observable on the spectrogram the two utterances may be distinguished, at the outset, as quadrisyllabic and trisyllabic respectively. The amplitude line corresponding to /iṯṯa amma/ shows zero level of intensity for a period of about 0.1 second between the portions corresponding to the second and third vowels in the utterance. This is clear evidence for a break of articulation between /iṯṯa/ and /amma/.

Spectrogram 8 helps compare the following utterances: /kaṉṯirunnu; kaṉṯu irunnu/. In regard to the latter, there is a period of about 0.1 second during which the intensity level shown by the amplitude line is so low that it nearly touches base line. This period can be located on the spectrogram between the second and the third vowels in the utterance. Obviously this corresponds to the short inverval between the final vowel in /kaṉṯu/ and the initial vowel in /irunnu/.

Compare the portrayal of /kaṉṯupooyi/ and /kaṉṯu pooyi/ in spectrogram 9. In regard to the latter utterance there is a period of about 0.05 second during which the amplitude display shows zero level of intensity. This corresponds to the short break of articulation between the two finite verbal forms.

See spectrogram 10 for a comparative study of the spectrographic effect of the following utterances: /paaṯiyirunnu; /paaṯi irunnu/. There is a very short period in the portrayal of the latter utterance during which the vertical distance between the amplitude line and the base line is the minimum. This period of the lowest intensity during the utterance corresponds to the point of transition from the —V final verbal form to the V— initial.



17. keʈum keeʈə

Spectrogram 11 portrays the utterances /paaṭippooyi/ and /paaṭi pooyi/. The duration of /i/ in the second syllable of the latter utterance is about twice as much as that in the former. The amplitude display shows approximately zero intensity for about 0.1 second between the nuclei of the second and third syllables in /paaṭi pooyi/. Note that the intensity level corresponding to a word medial single /p/ is usually much higher than this (See the portion corresponding to /goopi/ in SM.13). This period of zero intensity may, therefore, be interpreted as correponding to the transition between the two finite verbal forms involved.

Spectrographic evidence for durational difference between vowels in quantitatively different syllables

8.4.3 Durational difference between vowels in stem syllables that are light and heavy in finite verbal forms and verbal noun forms respectively is illustrated in spectrogram 17 for /keṭum/ 'will decay' and /keeṭə/ 'defect' (see 7.22.7). The duration of the vowels in the first syllables of these utterances is approximately 0.12 second and 0.22 second respectively.

APPENDIX I

ILLUSTRATION OF PHONOLOGICAL FORMULAE

Phonological formulae proposed in different sections of this thesis for verbal forms assigned to various grammatical categories are illustrated here with reference to the formal scatter of the verb /uut-/ 'to blow'. Of the 1,017 verbs whose formal scatters have been examined during the course of the fore-going investigation this particular verb was found to be one of the most representative in regard to the availability of forms belonging to the maximum number of grammatical categories.

The generalization of the stem structure which is invariable is given only for the form cited first. Categories for which no suffix structure is statable (eg. relative participle base, uninflected verb stem functioning as verbal noun) are not illustrated. When applicable to more than one homophonous form, the formula is not repeated. /uute/ listed against the label verbal participle$_1$ is structurally possible but not current in the language. Same is the case with /uuti/ whose occurrence as agentive is not quite common.

GRAMMATICAL CATEGORY	PHONETIC FORM	PHONOLOGICAL FORMULA
Future finite verb. / Positive non-past R.P.	uutum	$\overline{V}C\,\widetilde{\partial}^{\,W}$
Present finite verb	uutunnu	$-\partial^{W}\overline{N\,\partial}$

GRAMMATICAL CATEGORY	PHONETIC FORM	PHONOLOGICAL FORMULA
Past finite verb Positive verbal participle$_2$ Agentive	uuti	—I^{y}
Causative future F.Vb.	uutikkum	—ə P ə^{y} ^{w}
Imperative singular	uutuu	—Ī^{w}
Imperative plural	uutin	—ə^{y}N
Optative	uutuka	— ə^{w}P ə
	uutatte	—əPP ə^{y}
Verbal participle$_1$	uute	— ə^{y}
Purposive infinitive	uutaan	— ə̄N^{y}
Negative finite verb	uutaa	— ə̄^{y}
Negative past R.P.	uutaappa	— ə̄ N ə ^{y}
Negative verbal participle Negative imperative	uutaate	— ə̄P ə ^{y} ^{y}
Negative non-past R.P.	uutaatta	— ə̄ PP ə ^{y}
Positive past R.P.	uutiya	—I^{y}ə
Conditional	uutiyaal	—I ə̄L
Polite imperative	uutiyaalum	—I ə̄ L ə N ^{y} ^{w}
"Neutral" imp.(7.18)	uutikkoo	—IP ə̄ ^{y} ^{w}
	uutiyee	—I ə̄ ^{y}
Verbal noun	uutal	—ə L
Negative verbal noun	uutaayka	— ə̄ P ə ^{y}

.....

APPENDIX II

A SAMPLE TEXT

The text given here in reading transcription together with "free translation" into English on the facing page is intended to illustrate the occurrence of different types of verbal form in the speech of typical native speakers. The verbal forms are underlined and the usual punctuation marks given wherever necessary to facilitate easy reading. The theme is presented in the form of a talk between two friends.

1. John :- goopii taanentaa innu kaɻikkaan varaaɲɲaṭə ?
2. Gopi :- enikkə orittiri tirakkuɳṭ aayirunnu.
3. John :- atentaa, kaɻikkaanpoolum neeramkiṭṭaatta tirakkə ?
4. Gopi :- Reeɖiyooyil oorooṭṭantuḷḷ aluɳṭaayirunnu;
   atumkeeṭṭ ukoɳṭirunnu neerampooyataRiɲɲilla.
5. John :- tanikkeppoɾum itokkettanne - paaṭṭum tuḷḷalum kathakaɻiim. aRiɲɲ ukuuṯaaɲɲiṭṭu coodikkayaaɳə : entoonnaa itilokke itra rasikkaan ? aRubooRaaɳ itokke ennaa enikku toonnunnaṭə .
6. Gopi :- atu pooṭṭe. jooɳ eppoɾeɳ kilum oorooṭṭantuḷḷ aloo kathakaɻiyoo kaɳṭiṭṭuɳṭoo ?
7. John :- illa.

TRANSLATION

1. Gopi, why haven't you come to play today ?

2. I was a little bit busy.

3. What is it - being so busy as to get no time even to play ?

4. There was an "Ottantullal" in the radio; listening to it I did not know how the time passed.

5. For you there are always something like this - music and dance and "Kathakili". I can't understand - that is why I am asking: What is there in all these to enjoy ? What I feel is all these are great boredom.

6. That apart, John, have you ever seen one "Ottantullal" or a "Kathakali" ?

7. No.

8. Gopi :- ayyanevarattE! eyyaneyaapinne itellaam aRubooRaaN ennu tiirumaaniccatə ? annorikkal nammu tekuutE naa takam kaaN aanvanna kuttappanillee, ayaal paRajjatoormmayuNtoo? namukku valiya kampamuLLa hookkipoole itra pannakkali veeReyillennə . orikkalppoolum hookki kalikkukayoo kS amiccirunnukaaNukayoopoolum ceyyaateyaaNə pulli ayyane aRuttumuRiccu tattimuulicatə . itə eetaaNtə atupoole tanneyallee?

9. John :- tooRRetoo tooRRuu jaan. ennaal taanini iyyanevallatinum pookumpo enneemkuutiyonnu vilicaalmati. ellaattinReyum saampil jaanumonnu nookkattE.

10. Gopi :- atinentaa viS amam! atutta Seniyaarca tanne tauNhaalil kathakaliyuNtə. iyaalum varunneNkil namukkorumiccu pookaam.

11. John :- ateyoo, entaayirikkum annatte katha ?

12. Gopi :- puutanaamookSam.

13. John :- ennupaRajjaal enikkoru cukkum manassilaavilla. taan ellaam onnu vivariccu paRajju tannaalee okkuu.

14. Gopi :- ippo jaan ellaam vistariccittum kaaryamilla. Seniyaarcayaakumparceekkum iyaal atokke maRannukaliayum. atukoNtə ellaam namma tauhaalileekku pookunna varikku paRayaam.

15. John :- ennaal atumati. ini naale tanikku veeRe valla paripaatiimuNtoo ?

16. Gopi :- eey, onnuulla.

8. That is it! How did you then decide that these are great boredom ? There is that Kuttappan who came with us to see the play the other day. Do you remember what he said that day ? (According to him) there isn't any game as useless as hockey after which we are mad. He said this extremely firmly and openly without playing hockey or even seeing the game patiently at least once. This is also something like it. Isn't it ?

9. I do accept defeat. It is enough if you just call me also when you go for something like this next time. Let me also have a look at the sample of all.

10. What is the difficulty in it! Next Saturday itself there is Kathakali at the Town Hall. If you also come we shall go together.

11. Is it so ? What will be the story on that day ?

12. Putanamoksham.

13. If you say so, I can't make head or tail of it. You must explain to me everything in detail.

14. There isn't any use even if I describe all about it now. By Saturday you will just forget all of it. On our way to the Town Hall, I shall therefore tell you everything in detail.

15. If it is so, that will be enough. Then, do you have any programme tomorrow ?

16. No. None at all.

17. John :- appo naaʔe taan tiircayaayum kaʔikkaanvarum, illee ?

18. Gopi :- uvvɔ.

19. John :- appo ʃeri, naaʔe kʔabbilvaacu kaaɳaam.

20. Gopi :- aatte.

.....

17. So tomorrow you will definitely come to play. Won't you ?

18. Yes.

19. O.K. Tomorrow we shall meet at the Club.

20. All right.

.....

BIBLIOGRAPHY

The following is not intended to be an exhaustive bibliography. It is in fact only a list of the works specifically quoted or referred to in this thesis. Attention may, however, be drawn to a fairly complete bibliography covering the period 1948 - '60 compiled by Bursil-Hall (1961 pp.186 - '91) who lists about one hundred books and papers elucidating and illustrating the application of the theory of prosodic analysis. For works appeared in the sixties see in particular Robins (1963 and 1967 pp.157 - '79), Bazell (1966), Oyelaren (1967) and Langendoen (1968).

Double inverted commas enclose titles of articles. Asterisks indicate works on General Linguistics and Phonetics; plus signs works on the Malayalam language. The sign @ precedes the titles of general reference books. Those that are not marked by *, + or @ are, in general, contributions to Firthian linguistics.

ABERCROMBIE, DAVID. 1967 * Elements of General Phonetics. Edinburgh.

ALLEN, W. SIDNEY. 1951 "Some Prosodic Aspects of Retroflexion and Aspiration in Sanskrit." BSOAS 13, pp.939 - '46.

	1954		"Retroflexion in Sanskrit: Prosodic Technique and its relevance to Comparative statement." BSOAS 16, pp.556 - '65.
	1957		"Aspiration in the Harauti Nominal." in FIRTH (1957).
BAZELL, C.E., CATFORD, J.C., HALLIDAY, M.A.K., and ROBINS, R.H. (Editors)	1966		In Memory of J. R. Firth. London.
BLOOMFIELD, LEONARD.	1961	*	Language. London.
BURROW, T., and EMENEAU, M.B.	1961	@	A Dravidian Etymological Dictionary. Oxford.
BURSIL-HALL, G.L.	1960		" 'Levels' Analysis: J. R. Firth's Theories of Linguistic Analysis (Part II)" Journal of the Canadian Linguistic Association 6, No.3. pp.164 - '91
DEVASSY, M.K.	1965	@	Census of India 1961, Vol. VII Kerala.Part IA(i). Trivandrum.
FIRTH, JOHN RUPERT	1935		"The Technique of Semantics." Transactions of the Philological Society. pp.36 - 72.

	1948		"Word-Palatograms and Articulation." BSOAS 12, pp.857 - '64.
(and H. J. F. ADAM)	1950		'Improved Techniques in Palatography and Kymography." BSOAS 13, pp.771 - '74.
	1957		Studies in Linguistic Analysis. Oxford. "A Synopsis of Linguistic Theory", "Linguistic Analysis as a Study of Meaning" and "Descriptive Linguistics and the Study of English" in PALMER 1968).
HOCKETT, CHARLES F.	1958	*	A Course in Modern Linguistics. New York.
JONES, DANIEL	1932	*	An Outline of English Phonetics. Leipzig.
LANGENDOEN, D. T.	1968		The London School of Linguistics: A Study of the Linguistic Theories of B. Malinowski and J. R. Firth. Massachusetts.

LYONS, JOHN 1968 * Introduction to Theoretical Linguistics. Cambridge.

MOHRMANN, C., NORMAN, F., and SOMMERFELT, A. (Editors) 1963 * Trends in Modern Linquistics. Utrecht.

MOĪN, MOHAMMAD 1963 @ An Intermediate Persian Dictionary Vol.I. Amir Kabir Publications, Tehran.

NAYAR, V. R. PRABODHA - CHANDRAN 1963 + "Keera ļ apaa ṇ iniiyattinu munpum pinpum" (Malayalam grammars before and after Keralapaniniyam). Grandhaalookam Vol. 10., No. 3. pp.788 - '94, Trivandrum.

1965 + Description of the Language of Krishnagatha, with Index. Unpublished Ph.D. thesis, approved by the University of Kerala.

NIDA, EUGENE A. 1956 * Morphology - the Descriptive Analysis of Words. Ann Arbour.

OYELAREN, OLASOPE O. 1967 "Aspects of Linguistic Theory in Firthian Linguistics." Word 23 pp.428 - '52.

PALMER, F.R. 1955 "The 'Broken Plurals' of Trigrinya". BSOAS 17 pp.548 - '66.

(Editor) 1968 Selected Papers of J. R. Firth. London.

PEET, JOSEPH 1841 + Grammar of the Malayalim Language. Kottayam Church Mission Press.

ROBINS, R.H. 1957 "Aspects of Prosodic Analysis". Proceedings of the University of Durham Philosophical Society Vol. I Series B (arts) No.1. pp. 1 - 12.

1963 "General Linguistics in Great Britain 1930 - 60" in MOHRMANN (1963 pp.11 - 37).

1967 * General Linguistics - An Introductory Survey. London.

SHORTO, H.L. (Editor) 1963 Linguistic Comparison in South East Asia and the Pacific. School of Oriental and African Studies, London.

SPRIGG, R. K. 1963 "Prosodic analysis and Phonological formulae in Tibeto-Burman Linguistic Comparison" in SHORTO (1963 pp.79 - 108).

WESTERMANN, D and WARD, C. IDA 1933 * Practical Phonetics for Students of African Languages. London.

--------ooOoo--------

SONAGRAPH GRID